Commodore Disk Drive

Technical Manual

Model

SFD-1001

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commodore COMPUTER

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I. GENERAL

Description

The JU-570 is a 1.625" High (1/2 Hight) double-sided double-density 100 TPI minifloppy diskette drive. It contains a band actuator, a DC direct drive motor, bicompliant read/write head geometry, track 0 detector index detector, write protect switch, R/W electronics and motor speed control electronics.

II. CAPACITY

	Single Density	Double Density
A. Encode Method	FM	MFM
B. Unformatted		
Bits/Diskette	4,000,000	8,000,000
Bits/Track	25,000	50,000
C. Formatted 16 Records/Track (Hard or Soft)		
Bits/Diskette	2,621,440	5,242,880
Bits/Track	16,384	32,768
Bits/Sector	1,024	2,048
D. Formatted 10 Records/Track (Hard or Soft)		
Bits/Diskette	3,276,800	6,553,600
Bits/Track	20,480	40,960
Bits/Sector	2,048	4,096
E. Formatted 18 Records/Track (Soft)		
Bits/Diskette	2,949,120	5,998,240
Bits/Track	18,432	36,864
F. Transfer Rate		
Bits/Second	125K	250K
Bytes/Second	15.625K	31.25K

III. MEDIA

Diskette

MCI recommended Minidiskette for double-sided double-density double track drive.

Tracks

per inch	100
per surface	78
per disk	156

Track Location

track 36 radius (Side 0)	1.9166 in.	48.682 mm.
(Side 1)	1.8333 in.	46.566 mm.

IV. ENVIRONMENTAL

	Operating	Shipping	Storage
Ambient Temperature	41° to 115°F 5° to 46°C	-4° to 140°F -20° to 60°C	-4° to 122°F -20° to 50°C
Relative Humidity	20 to 80%	8 to 90%	8 to 90%
Max. Wet Bulb	80°F 29.4°C	No Condensation	
Change	15°C Change should allow 1 hour for diskette to stabilize to new environment.		

V RELIABILITY

Error Rate - When used with MCI recommend circuits or eqiv.

Soft read errors (2 retries min.)	1 per 10^9 bits transferred
Hard read errors	1 per 10^{12} bits transferred
Seek errors	1 per 10^6 seeks

Media

Diskette insertions	30,000
Diskette clampling (With rotated spindle)	30,000

MTBF (Mean Time between Failures)	10,000H, duty cycle 25%
PM (Preventative Maintenance)	None
MTTR (Mean Time to Repair)	30 minutes
Component Life	5 years
Media Life	3×10^6 passes per track

VI. POWER

DC Voltages

+5.00 ± 0.25 VDC @ 0.2A typical

+12.00 ± 0.60 VDC @ 1.2A max., .75A typical, 100 mV p-p ripple

BTU/Hr. (1 watt = 3.413 BTU/Hr.)

BTU Typ.	42.7
Watts Typ.	12.5

VII. DRIVE

A. Mechanical

Seek Settle Time

Track to track access time	18 ms max. Consisting of 3 ms track to track seek time and 15 ms settle time
Drive Motor Start Time	1 sec max.

R/W Head

Head load	17 ± 3 gr
Radial align./hysteresis*	70% min.
Azimuth	33' ± 18'
Modulation max.	20% max.
Spindle Speed	300 RPM ± 3%

B. Mounting

Front Loading

Diskette Vertical (Side 1 left or right)	Yes
Diskette Horizontal (Side 1 up)	Yes
Diskette Horizontal (Side 1 down)	No

Top Loading — No

C. Electrical - Readings at 21°C and nominal voltage unless otherwise specified

1. Drive Motor

Max. stall current	900 MA
Max. running current	400 MA
Typical current	280 MA
Start time	1 sec max.

2. Stepping Motor

Stepper Motor/2 Phase (12 V)	$320 \begin{smallmatrix}+35\\-30\end{smallmatrix}$ MA

3. Read/Write Channel

Head

Resistance/INDUCTANCE

Resistance RW1 or RW2 to CT	37 ± 30% ohms
Inductance RW at full coil	2 ± 30% mH
Resistance Erase to C.T.	8.0 ± 30% ohms
Inductance Erase	3.3 ± 30% µH

Performance

Test criteria: Head and Carriage

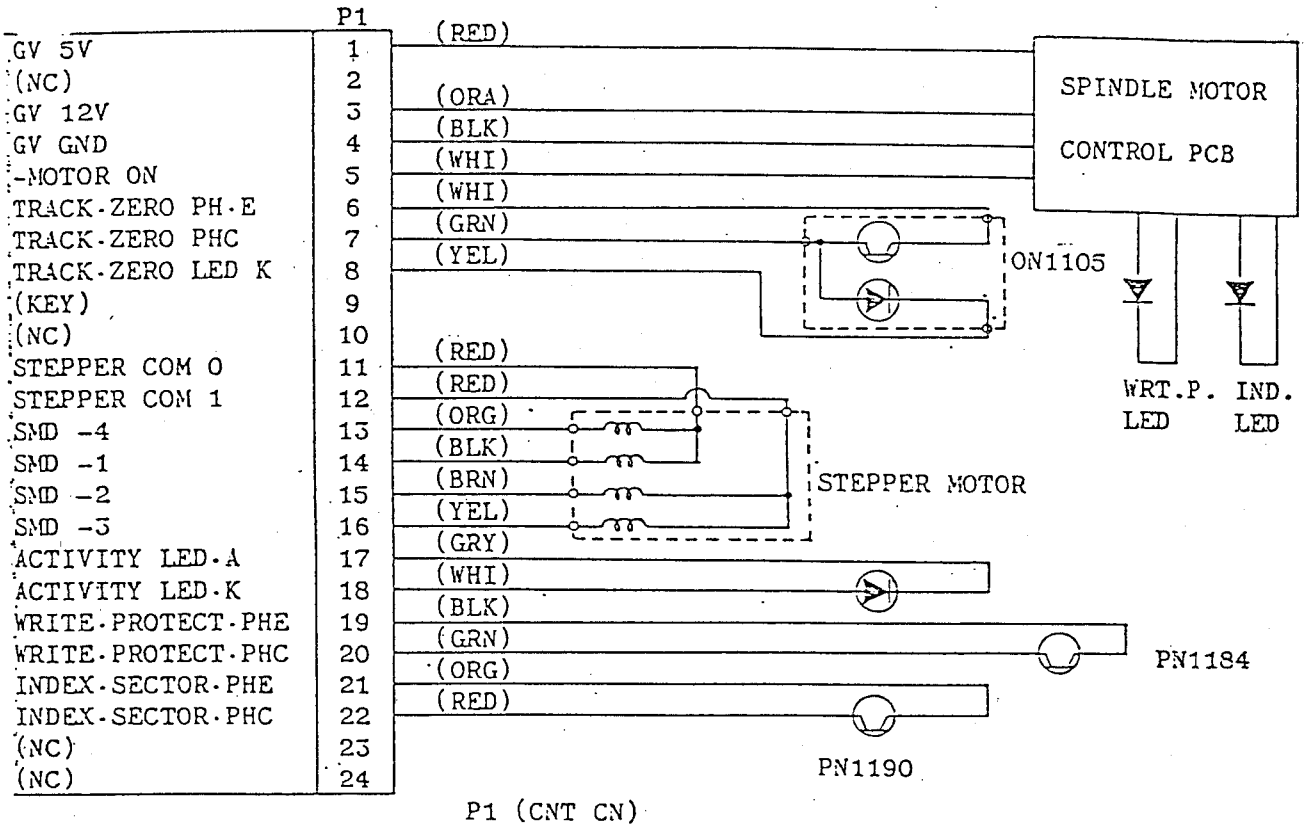
Rotational speed 300 rpm
Track radius at track 77
Frequency 125 kHz
Load pad pressure 17 ± 3 grams
Write current 6.3 ± 0.2 MA p-p

Average read amplitude after writing 1.3 mv p-p min.
Resolution 60% min.

VIII. INTERFACE

A. Introduction

This specification describes the requirements of the physical and electrical interface with the JU-570 Diskette Drive unit. The physical interface section specifies the mechanical requirements as well as lists recommended parts. The electrical interface defines the functional as well as timing relationships required of each I/O pin. (Fig. 1)



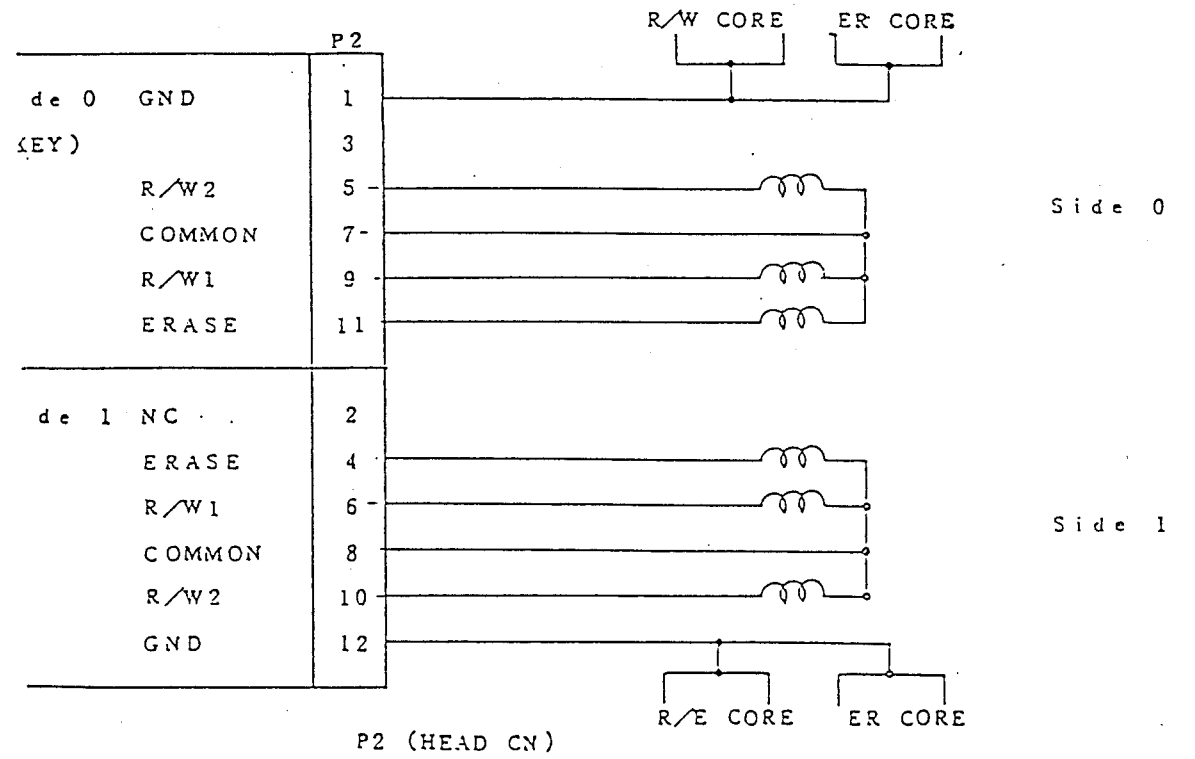
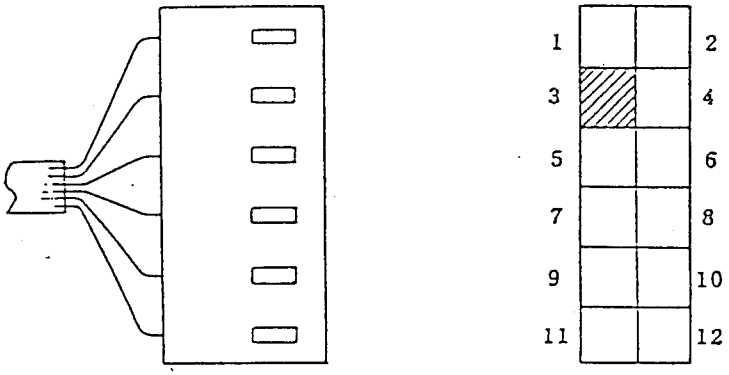


Fig. 1 The Electrical Interface Schematic

B-1. R/W Head Interface

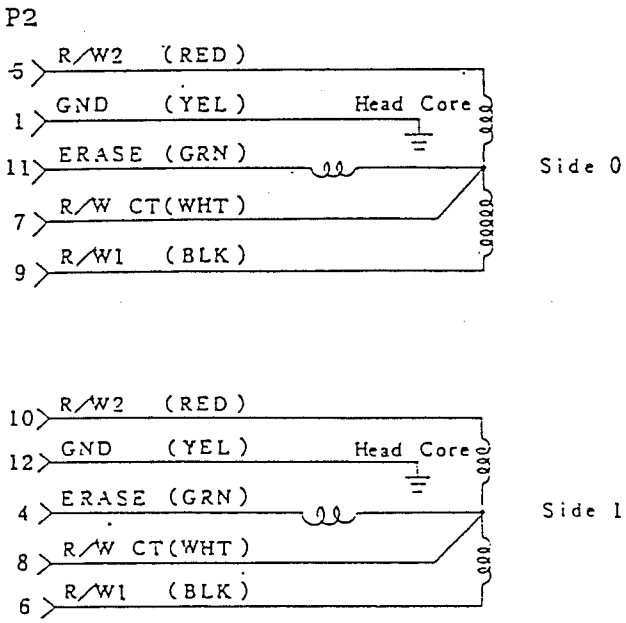
Connector P2 provides the physical interface to the magnetic head as shown in figure 2.



3: KEY

Fig. 2 P2 Connector

B-2. Schematic



B-3. Connector Requirements

Housing	Honda HKP-12F02
Contacts	Honda HKP-F303
PCB Header	Honda FFC-12TLBW1B#3

B-4. The WRITE operation utilizes both read/write coils sequentially, where each written bit is directed to alternate read/write coil, creating a change in the direction of current flow through the read/write head. The required current is 6.3 ± .2 ma peak to peak, or 3.15 ± .2 ma base to peak on all tracks. It is recommended that the write current transitions are within 0.5% from leading edge to leading edge. Proper write damping must be considered during design for write transitions. Note: The head must be loaded for proper write operation.

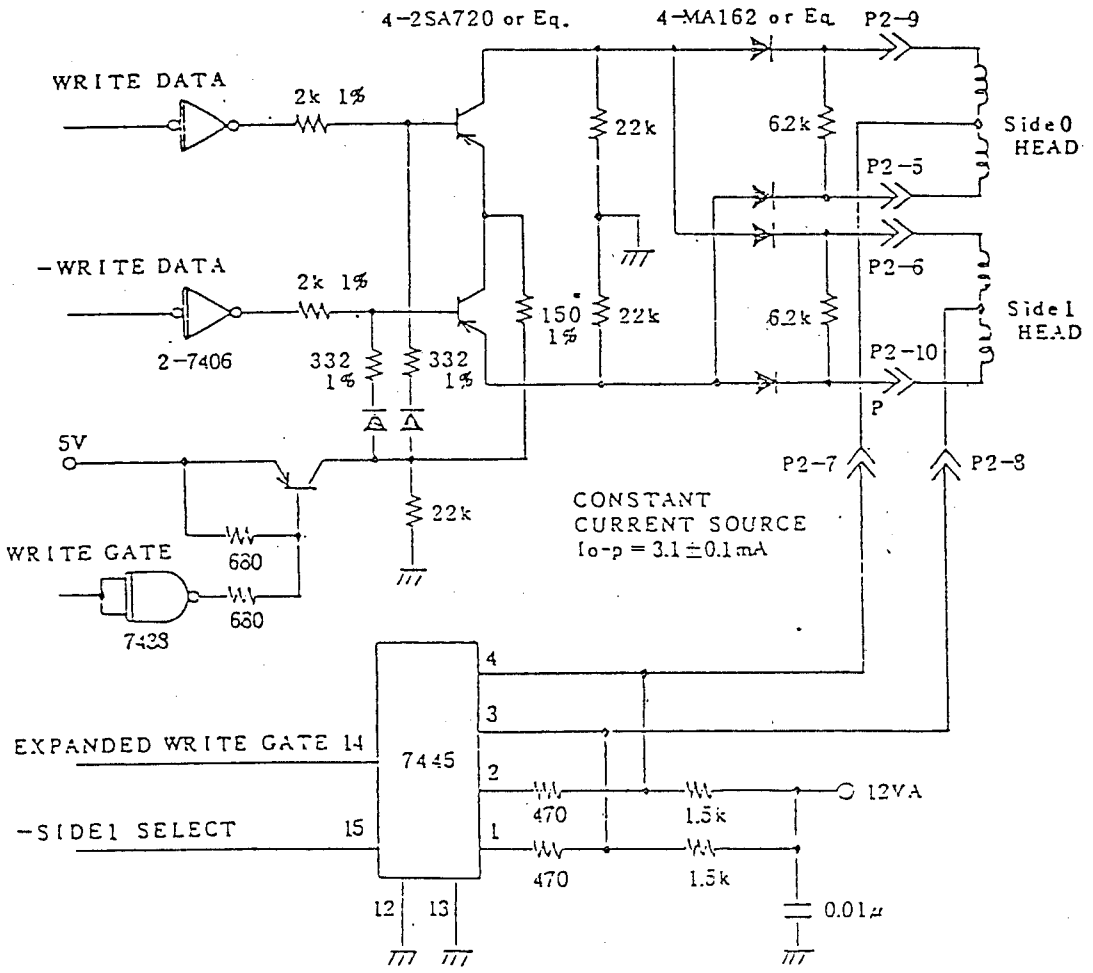


Fig. 3 A RECOMMENDED INTERFACE FOR WRITE OPERATION

B-5. The READ operation occurs when the head is loaded and data has been previously recorded on the track of interest. Using an S/A diskette the minimum differential amplitude of 1.3 mV peak-to-peak occurs on TRK 77 at a frequency of 125 kHz. A maximum signal amplitude of 20 mV occurs on TRK 00 at a frequency of 625 kHz. The customer is cautioned to use proper clamping for the read operation. A recommended interface is shown in figure 4.

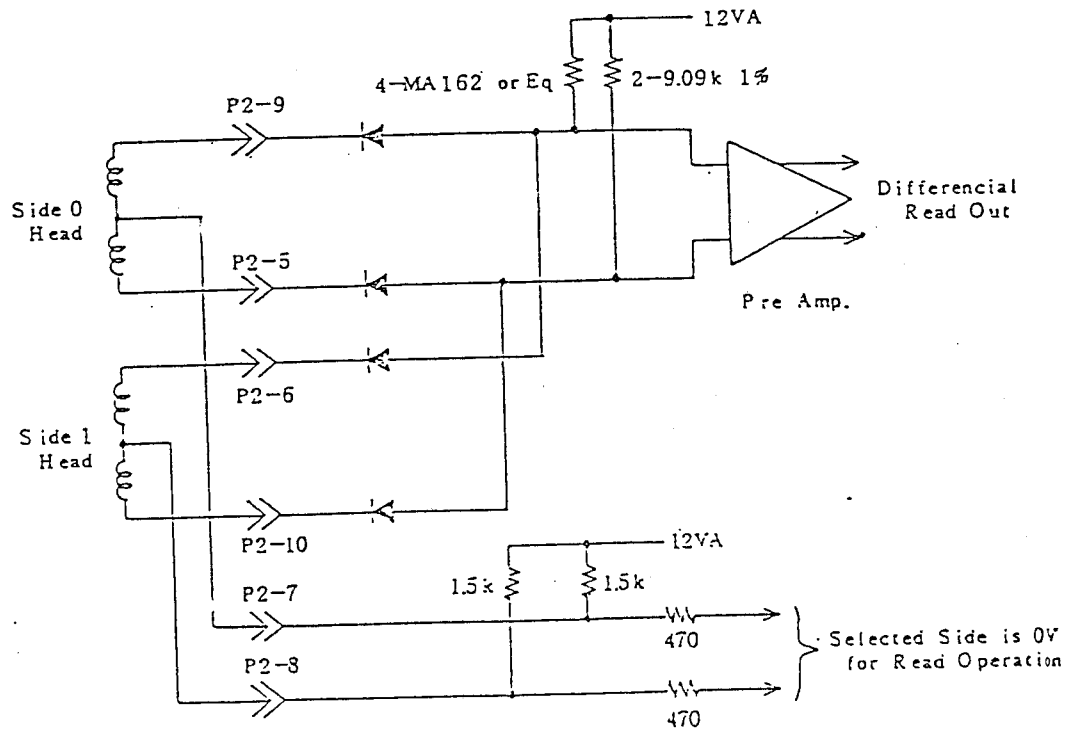


Fig. 4 A RECOMMENDED INTERFACE FOR READ OPERATION

NOTE: Figure 3 and 4 interface circuits are valid only when used in connection with each other.

B-6. The ERASE COIL requires a DC current of 40 ma ± 4 ma energized during any write operation. Both erase current and write current should be started and ended simultaneously.
A recommended interface for the erase coil is shown in figure 5.

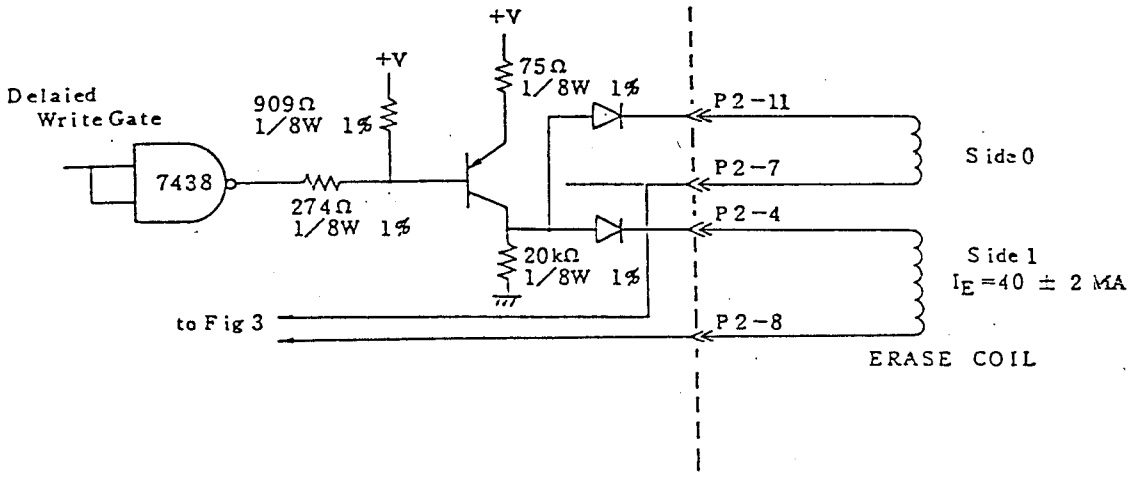


Fig.5 A RECOMMENDED INTERFACE FOR EARSE COIL

C-1. Stepping Motor, Drive Motor, Write Protect, Track 00 and ACTIVE LED Interface

Connector P1 provides the physical interface to stepper, drive motor, write protect, Track 00, and Index.

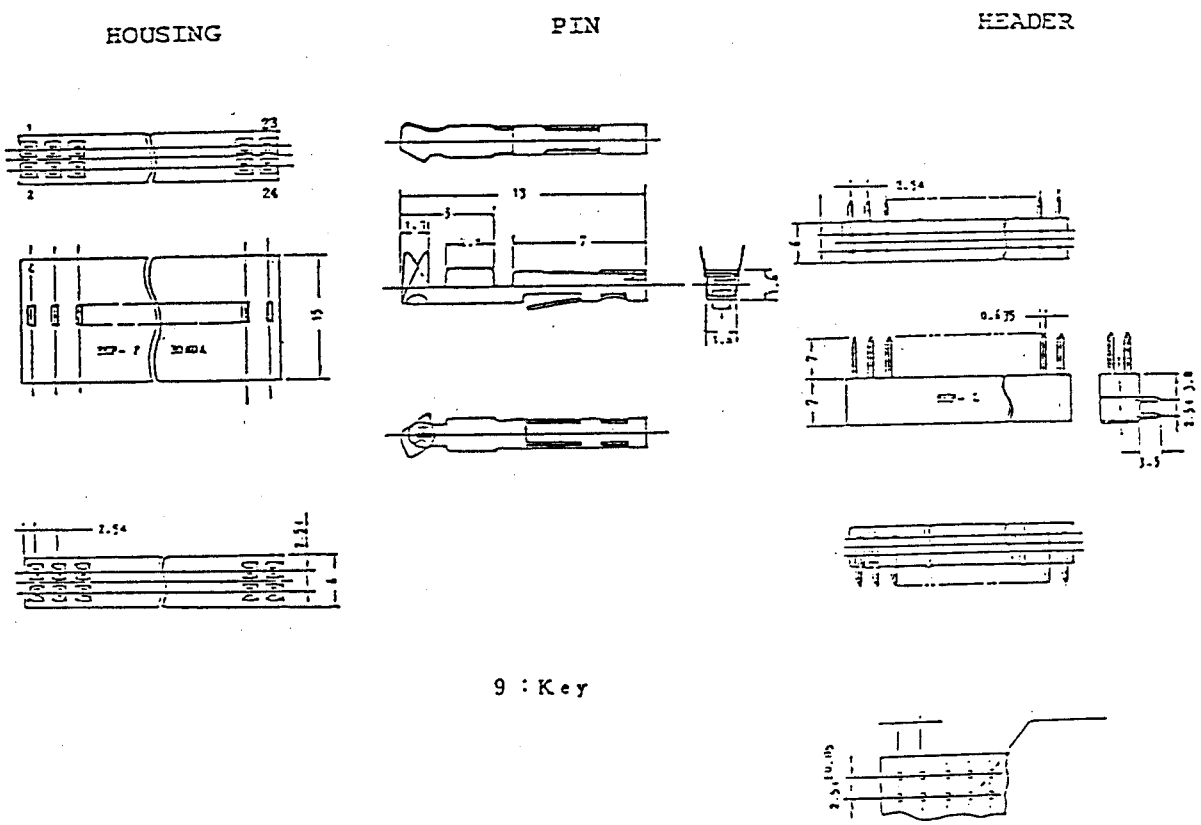


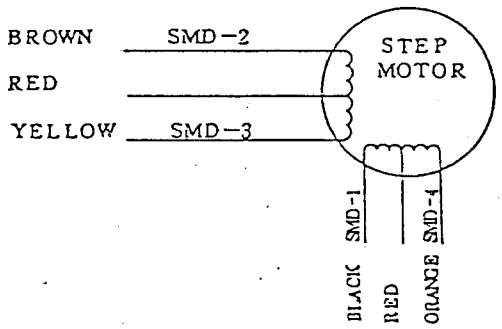
Fig.6

Connector Requirements

Housing	Honda	HKP-24F02	
Contacts	Honda	HKP-F40JR	
PCB header	Honda	HKP-10M2L	FFC-24TLBW1B #9

C-2. Step Motor Input Requirement

The motor is a bifilar wound, four phase stepper which generates a 1.8° step with single phase stepping.

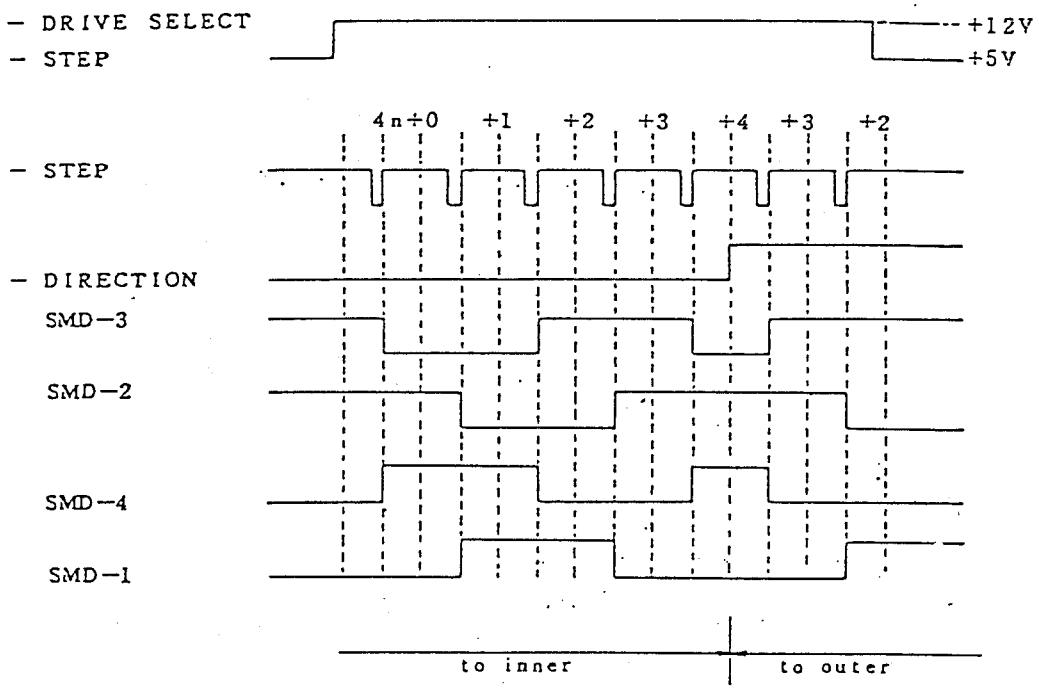


To Energize : Both red center taps go to +12V DC and go to +5V DC for unselected drive. For selected drive an appropriate two phases are connected to ground.

PHASE TABLE/TWO PHASE DRIVE

TRK POSITION	SMD-3 (YELLOW)	SMD-2 (BROWN)	SMD-4 (ORANGE)	SMD-1 (BLACK)
4 x n +0	LOW	HIGH	HIGH	LOW
4 x n +1	LOW	LOW	HIGH	HIGH
4 x n +2	HIGH	LOW	LOW	HIGH
4 x n +3	HIGH	HIGH	LOW	LOW

C-3. Stepper Timing Driven in Two Phases



C-4. Stepper Voltage

When no step command or no selected drive, +12V supplied to stepper is switched to +5V to avoid power consumption.

D. Motor On

This input, when activated to a logical zero level (open collector with 1 K ohm pull up) will turn on the drive motor allowing reading or writing on the drive. A 1 sec delay after activating this line must be allowed before reading or writing. In general when the drive is not selected, the motor should be off to extend motor and diskette life and decrease power consumption. System timing must be analyzed to determine optimum delay between deselection of drive(s) and turning off motor(s).

Shown below is one of examples for motor control PCB which should resides on customer's PCB.

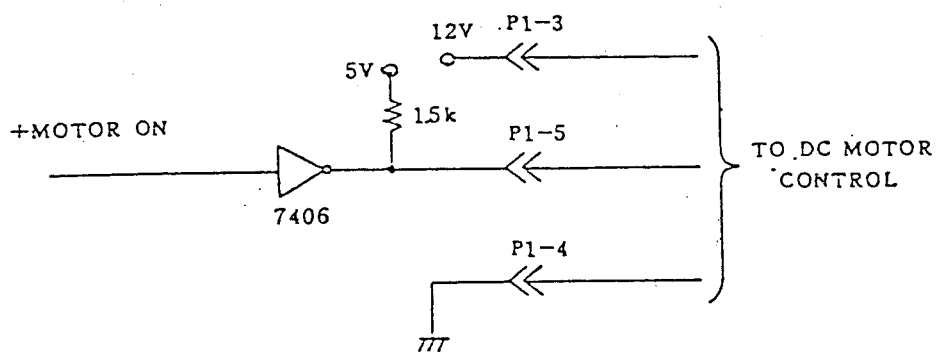


Fig. 7

E. Write Protect Switch Interface

Connector P1 provides the WRITE PROTECT PHOTO DETECTOR.

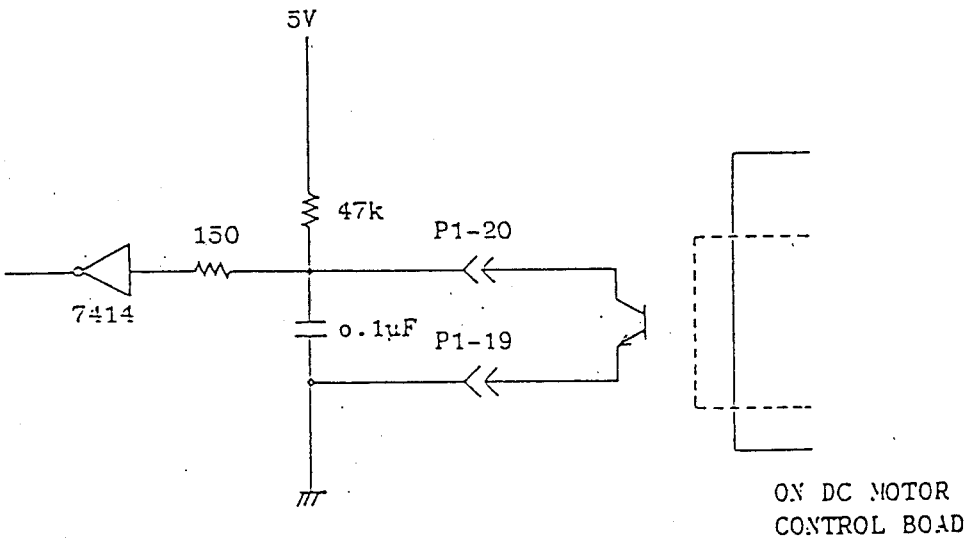


Fig. 8

This interface signal is provided by the drive to give the user an indication when a write protected diskette is installed.

This signal is a normally opened switch contact when the diskette is not protected and closed when it is protected. Writing on the diskette is inhibited on the drive when the diskette is write protected.

F. TRACK 00

The drive need the TRACK 00 signal to obstruct BUMP NOISE in recal motion USER should prepare the logic circuits that make stepper stop to outer direction after TRACK 00 signal is active low.

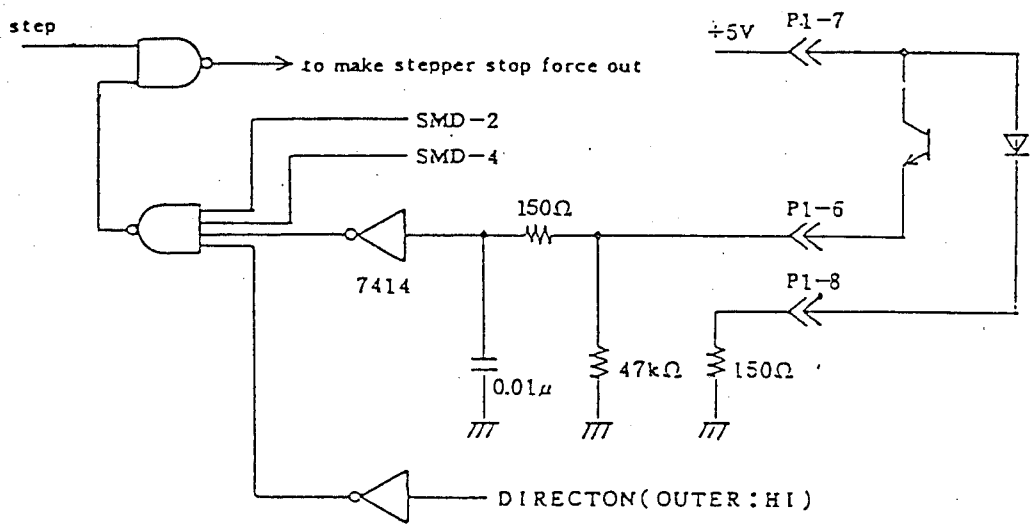


Fig. 9

G. ACTIVE LED

Drive have the interface of the active led on the face plate. Recomended interface is shown in Fig. 10.

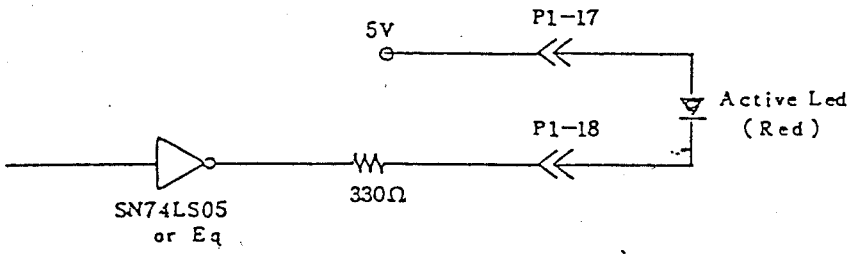


Fig. 10

H. Frame Ground

The drive frame must be grounded. If drive is incorporated into a battery powered portable system, then D.C. ground is recommended. If system's input power is line voltage, then the third wire SAFETY GROUND is recommended. AMP P/N 61761-2 AC or DC power input ground and mating connector AMP P/N 60972-1.

I. Power Interface

Diskette Storage Drive requires DC power for operation. The two required voltages are as follows:

(1) +5.00 ± 0.25 VDC @ 0.2A typical

(2) +12.0 ± 0.6 VDC @ 1.2A max., .75A typical, 100 mv max allowable p-p ripple

Motor start surge (see below)

The 12V current is composed of two components; diskette drive motor current and read/write stepper functions. Also the diskette drive motor is energized and deenergized by the "Motor On" or "Drive Select" interface line.

Each of these functions has the following contributions to the +12V current requirements.

(A) Read/Write function and stepper motor (drive "standby" current)
+5V current is 1.0A typical 0.5A max.

(B) Diskette drive motor start
+12V current is 1.0A typical, 1.2A max. for 1 sec max.

(C) Diskette drive motor running
+12V current is .28A typical, 0.9A max. (motor stalled)

IX. SUGGESTED GENERAL CONTROL/DATA TIMING REQUIREMENTS

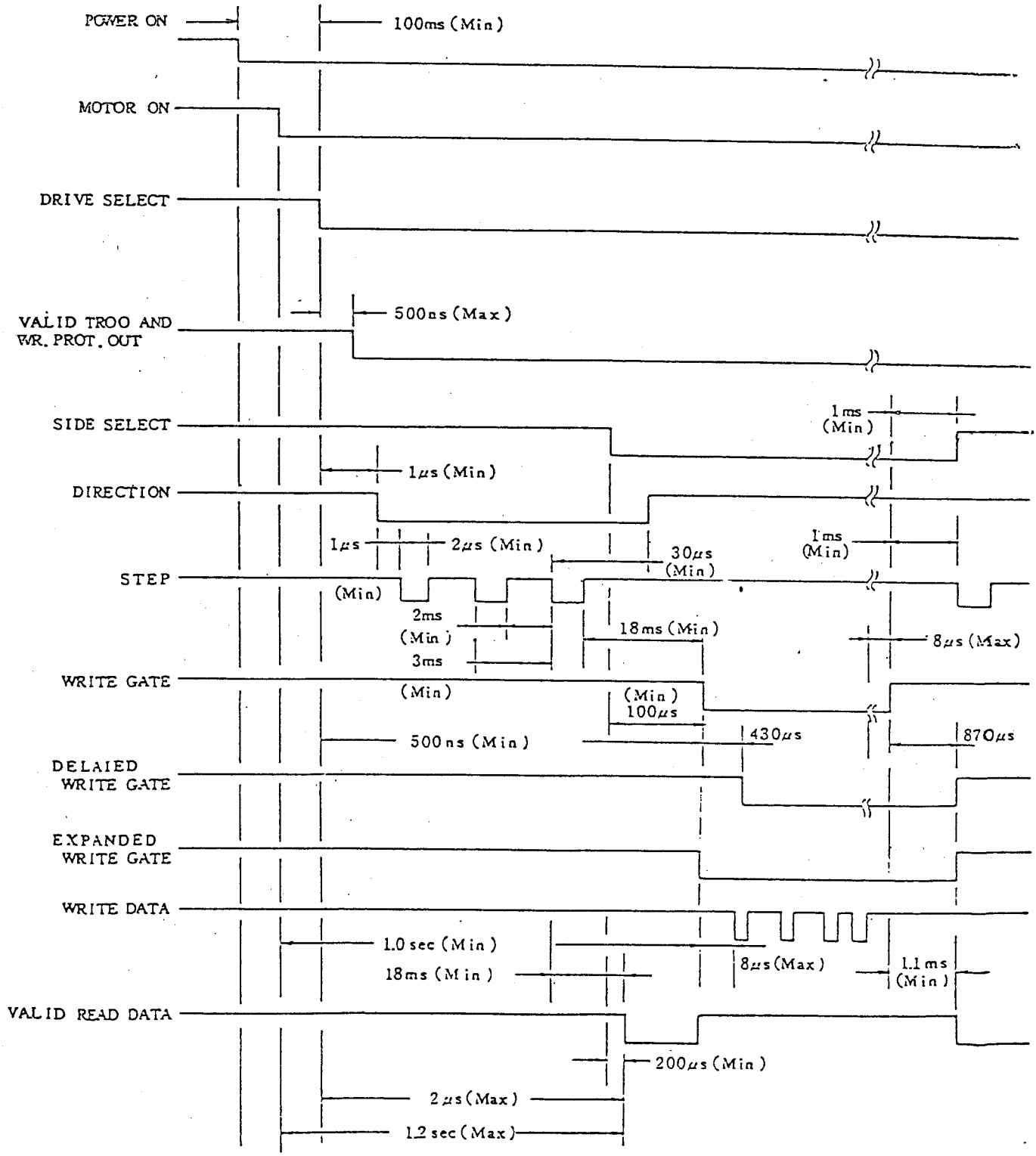


Fig. 11
(All signals are shown as low active)

X. PHYSICAL OUTLINE

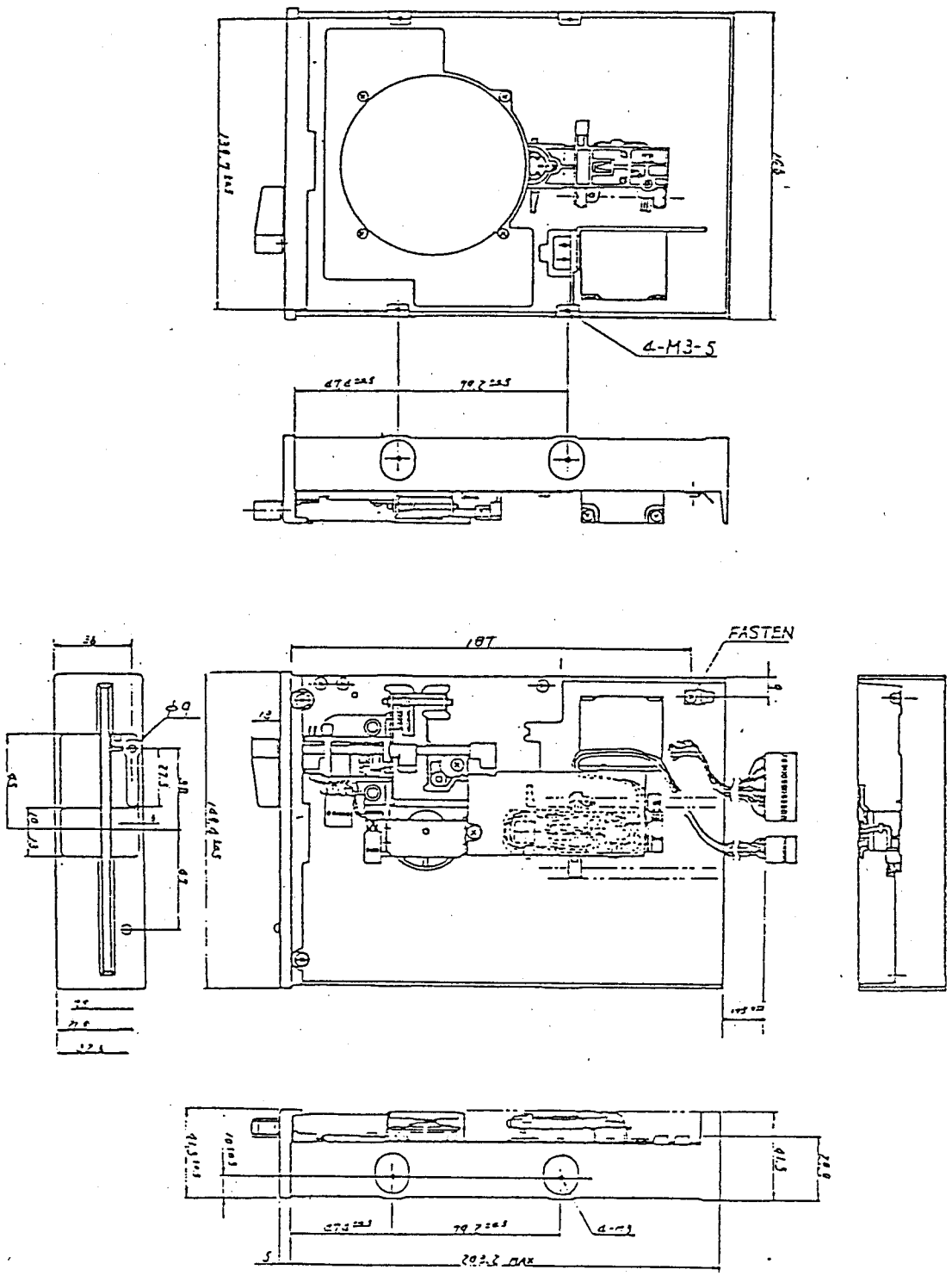
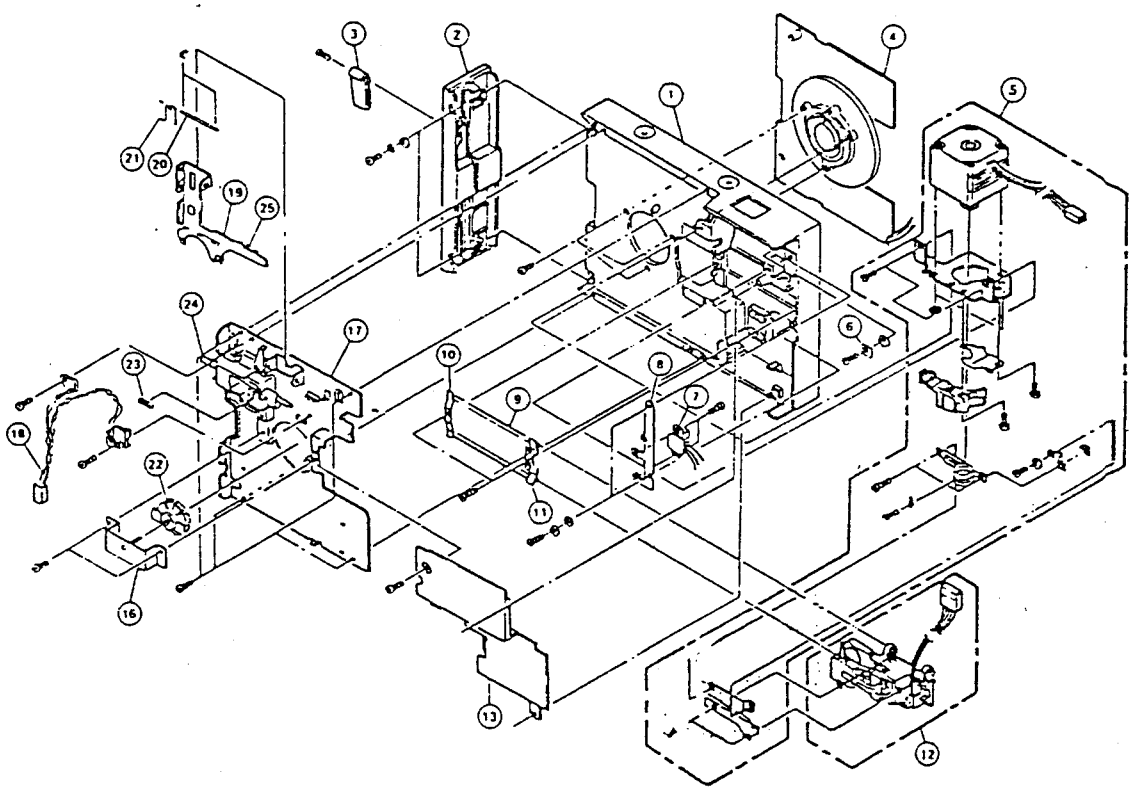


Fig. 12

XI. PARTS LIST

REF. NO.	MANUFACTURE PART NUMBER	DESCRIPTION	Q'TY
1.	YJF3L01141B1	BASE	1
2.	YJF5W00150B2	FRONT PANEL	1
3.	333D46817670	HANDLE	1
4.	YJFMD00170B4	DC MOTOR	1
5.	YJF3101010A3	STEPPING MOTOR ASS'Y	1
6.	YJ617612	FASTEN TAB	1
7.	YJUF56TRK-2S	DETECTOR	1
8.	YJF2T00601B4	BRACKET	1
9.	YJF2E00590B4	GUIDE ROD	2
10.	333D46331360	CLAMP GUIDE ROD	1
11.	YJF2E00580B4	CLAMP GUIDE ROD (2)	1
12.	YJUF56HCA-2	R/W HEAD ASS'Y	1
13.	YJF2H00681B3	SHIELD PLATE	1
16.	YJF2E00631B4	GUIDE SHAFT ASS'Y	1
17.	YJF2E00560B1	CARTRIDGE GUIDE	1
18.	YJUF56WP-2S	DETECTOR ASS'Y	1
19.	333D36331610	LIFTER	1
20.	333D46624810	LIFTER SHAFT	1
21.	333D46625021	LIFTER SPRING	1
22.	YJF3100160A4	COLLET ASS'Y	1
23.	333D46624770	LOCK SPRING	1
24.	YJF3100461A3	CLAMP CAM ASS'Y	1
25.	333D46817500	PAD	1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PART NO.	DESCRIPTION	
250650 -01	BASE ASSY, SINGLE FLOPPY SFD-1001	UL
250650 -02		CSA
250650 -03		JIS
250650 -04		VDE
250650 -05	BASE ASSY, SINGLE FLOPPY SFD-1001	BSI

(Fold Here)

DWG. NO. 250650

TITLE: BASE ASSY, SINGLE FLOPPY SFD-1001

REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	9-13-83	

1. SHEET 3 OF 3 SIZE D
ASSY DWG

NOTES-UNLESS OTHERWISE SPECIFIED:

commodore	DRAWN BY	DATE	ENGR		SIZE	SHEET 1 OF 3
	H. Nishizaka	6/16/83		6-17-83	B	
	CHKD T. Tokuda	6/17/83	APPR:	9/13/83		

22

QUANTITY REQD PER PART / DASH NO. 05	04	03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
					1						
					2						
					3						
				1	4	B/C/D	250651-01	POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001 UL			
			1		5	B/C/D	250651-02	CSA			
		1			6	B/C/D	250651-03	JIS			
	1				7	B/C/D	250651-04	VDE			
1					8	B/C/D	250651-05	POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001 BSI			
					9						
					10						
					11						
					12						
1	1	1	1	1	13	B	250652-01	LED ASSY, TRI-STATE			
					14						
					15						
					16						
					17						
1	1	1	1	1	18	B	251152-01	LAMP HOLDER SET			SANKEN SLH-50
					19						
					20						
1	1	1	1	1	21	B	251540-01	STAND-OFF			
					22						
1	1	1	1	1	23	D	1540015-02	CASE BOTTOM			
					24						
1	1	1	1	1	25	B	251541-03	SPRING WASHER M3			
					26						
					27						
6	6	6	6	6	28	B	906883-04	SCREW, SELF-TAPPING M3			PAN HEAD, PHILLIPS LG10
					29						
					30						
					31						
					32						
					33						
1	1	1	1	1	34	B	325541-02	SCREW, WITH EXT TOOTH METRIC, M3			PAN HEAD, PHILLIPS LG6
					35						
					36						
					37						

commodore

TITLE: BASE ASSY, SINGLE FLOPPY SFD-1001

DRWN BY: [illegible] DATE 6/16/83

CHKD: T. Tekeda 6/17/83

ENGR: DATE

APPR: [illegible] 7/13/83

SIZE B | 250 650 | REV A | SHT 2/3

ADVANCED REPRO

PART NO.	DESCRIPTION
250414-01	PCB ASSY, 6530 ADAPTOR SFD-1001
250414-02	PCB ASSY, 6530 ADAPTOR 8250LP

[Fold Here]

DWG. NO. 250414

TITLE: PCB ASSY, 6530 ADAPTOR

REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	9-13-83	J. Abrahamson

1. SHEET 3 & 4 OF 4 SIZE B
ASSY DWG
NOTES-UNLESS OTHERWISE SPECIFIED:

commodore	DRAWN BY: K. Maruyama	DATE 6/16/83	ENGR.	6/17/83	SIZE B	SHEET 1 OF 4
	CHKD T. Tokuda	6/17/83	APPR:	9/13/83		

QUANTITY REQD PER PART/DASH NO. 02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
		1						
	1	2	B	251232	PCB 6530 ADAPTOR			
	REF	3	B	251462	PCB 6530 ADAPTOR ARTWORK			
		4						
		5						
1	1	6	B	901885-04	IC 6530 PIA	U1		
	1	7	B	251257-03	" 2716 EP-ROM	U2		
1	1	8	B	901521-02	IC 74LS04 INV	U3		
1		9	B	251474-02	IC EP-ROM FOR 8250 CONTROLLER	U2		2516, 2716, 2732 ARE ALL AVAILABLE EP-ROM.
S	S	10	B	901521-30	IC 74LS14 INV	U3		
		11						
1	1	12	B	904150-04	SOCKET IC LOWPROFILE 24PIN			
1	1	13	B	904150-06	SOCKET IC LOWPROFILE 40PIN			
		14						
		15						
		16						
1	1	17	B	325534-06	HEADER ASSY 40PIN.	P1		YAMAICHI
		18						
		19						
		20						
	REF	21	B	251252-01	SCHEMATIC DIAGRAM			6530 ADAPTOR
		22						
		23						
		24						
REF		25	B	251252-02	SCHEMATIC DIAGRAM			6530 ADAPTOR FOR 8250LP
		26						
1		27	B	251457	PCB 6530 ADAPTOR 8250LP			
REF		28	B	251475	PCB 6530 ADAPTOR 8250LP ARTWORK			
		29						
		30						
		31						
		32						
		33						
		34						
		35						
		36						
		37						

commodore

TITLE: PCB ASSY, 6530 ADAPTOR

DRWN BY: K NAKAYAMA	DATE 6/15/83	ENGR:	DATE
CHKD: T. Hood	6/17/83	APPR: T. Hood	6/17/83

SIZE B | 250414 | REV A | SHT 3/4

ADVANCED REPRO

QUANTITY REQD PER PART / DASH NO. 01	ITEM	OS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
1	1	B	251202-01	PC BOARD POWER SUPPLY			PAPER EPOXY UL94V-2 (105x73x1.6t)
	2						
PTH	3	B	251408-01	PC BOARD POWER SUPPLY ARTWORK			
	4						
	5						
2	6	B	251307-01	DIODE-RECTIFIER FULL WAVE BRIDGE	D1, D2		TOSHIBA 6B4B41-LC1 100V 6A
	7						
	8						
1	9	B	251308-01	VOLTAGE REGULATOR, TO-3P	IC1		SANKEN SI-3052V
1	10	B	251308-02	VOLTAGE REGULATOR, TO-3P	IC2		SANKEN SI-3122V
	11						
	12						
1	13	B	251309-04	CAPACITOR ELEC. 15,000 MF/16V	C1		RADIAL FLAT TYPE
1	14	B	251309-09	10,000 MF/25V	C2		RADIAL FLAT TYPE
1	15	B	900301-06	470 MF/10V	C3		
1	16	B	900100-18	CAPACITOR ELEC. 220 MF/16V	C4		
	17						
	18						
1	19	B	903316-04	HEADER ASSY, POST, STRAIGHT 3.96 PITCH 4PIN	P6		MOLEX 5271-04A
	20						
	21						
	22						
	23						
	24						
	25						
2	26	B	251306-01	HEAT SINK, DIODE BRIDGE	HS1, HS2		FOR D1, D2
1	27	C	251305-01	HEAT SINK, VOLTAGE REGULATOR TO-3P	HS3		FOR IC1, IC2
	28						
	29						
1	30	B	250654-01	HARNESS ASSY, 2PIN			+12V
1	31	B	250653-01	HARNESS ASSY, 4PIN			+5V
	32						
	33						
	34						
	35						
	36						
	37						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY POWER SUPPLY

DRWN BY: Y. Sakamoto DATE 6/16/83
CHKD: T. Tanda 6/17/83
ENGR: Y. Tanda DATE 6-17-83
APPR: T. Tanda 9/15/83

SIZE B | 250417 | REV A | SHT 2/4

ADVANCED REPRO

QUANTITY REQD PER PART / DASH NO. 01	ITEM	OS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
	38						
REF	39	B	251402-01	SCHEMATIC DIAGRAM			POWER SUPPLY
	40						
	41						
	42						
	43						
	44						
2	45	B	251403-03	SCREW M3 SEMS PHILLIRS PAN HEAD			VOLTAGE REGULATOR (2) LG 10
	46						
2	47	B	251403-05	SCREW M3 SEMS PHILLIRS PAN HEAD			DIODE (2) LG 14
	48						
2	49	B	251403-01	SCREW M3 SEMS PHILLIPS PAN HEAD			HEAT SINK (2) LG 6
	50						
	51						
2	52	B	325551-04	INSULATION SILICON TO-3P			ATTACHED WITH VOLTAGE REGULATOR
	53						
	54						
AR	55	B	904907-02	HEAT SINK COMPOUND THERM, CONDUCTIVE			CONJUNCTION WITH ITEM 6 AND ITEM 9, 10
	56						
	57						
1	58	B	251404-01	JUMPER WIRE JUN FRON WIRE			JUNKHOSHA AF04A080SA 0.6DIA
1	59	B	251405-01	JUMPER WIRE TIN COATED WIRE			AIKOKU DENSEN TCW 0.8DIA
	60						
	61						
	62						
	63						
	64						
	65						
	66						
	67						
	68						
	69						
	70						
	71						
	72						
	73						
	74						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY POWER SUPPLY

DRWN BY: Y. Shibano 6/16/83 | CHKD: T.T. Kuda 6/17/83 | ENGR: T.T. Kuda 6-17-83 | APPR: [illegible] 6/17/83

SIZE B | 250417 | REV A | SHT 3/4

ADVANCED REPRO

PART NO.	DESCRIPTION
250416-01	PCB ASSY, SINGLE FLOPPY CONTROL
↕ -02	N/A
250416-03	PCB ASSY, SINGLE FLOPPY CONTROL (USED MASK-ROM 6530 ADAPTOR)

[Fold Here]

DWG. NO. 250416

TITLE: PCB ASSY. SINGLE FLOPPY CONTROL

REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	7-13-83	J. Okamoto
B		REVISED PER ECO 840007	1-12-84	Y. Lee

1. SHEET 9, 10 OF 10 C SIZE
ASSY DWG
NOTES-UNLESS OTHERWISE SPECIFIED:

commodore	DRAWN BY Y. Shibamoto	DATE 6/16/83	ENGR T. Okamoto	6/17/83	SIZE B	SHEET 1 OF 10
	CHKD T. Tokuda	6/17/83	APPR T. Kamisaka	9/13/83		

QUANTITY REQD PER PART / DASH NO. 03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION			REF DES	BEND	NOTES
4		4	1	B	901521-01	I C	74LS00	NAND	1D,4I,9C,9E		
4		4	2		-21		74LS02	NOR	1C,4A,5I,11F		
2		2	3		-02		74LS04	INV	7E, 7I		
2		2	4		-03		74LS08	AND	1H, 4G		
1		1	5		-24		74LS10	3 INPUT NAND	10F		
1		1	6		-30		74LS14	INV	11E		
2		2	7		-17		74LS42	1 OF 10 DECODER	3G, 4H		
2		2	8		-06		74LS74	D FLIP FLOP	7B,11H		
1		1	9		-32		74LS86	2-EX-OR	9D		
1		1	10		-15		74LS133	13 INPUT NAND	2D		
1		1	11		-25		74LS153	4 INPUT MAX	7F		
7		7	12		-11		74LS157	2 INPUT MAX	3C,3D,4C,5G,5H	6G,	6H
1		1	13		-33		74LS163		2G		
2		2	14		-26		74LS164	SIPO REG	5B, 6B		
1		1	15		-12		74LS165	PISO REG	6E		
1		1	16		-34		74LS175		10G		
2		2	17		-35		74LS194		6F, 9F		
1		1	18		901521 -27		74LS190		2C		
1		1	19		901522 -06		7406	INV BUFFER	4D		
1		1	20		-19		7414	INV	8I		
1		1	21		-01		7417	BUFFER	9I		
1		1	22		-09		7438	NAND O.C	9B		
1		1	23		901522 -39		7445	DECODER	10B		
1		1	24		901525 -04		74S00	NAND	10H		
1		1	25		901523-01		LM555	TIMER	11J		
1		1	26		901523-10		LF353		2A		
3		3	27		901524-01		MC3446	BUS INTERFACE	8J, 9J, 10J		
1		1	28		901502-01		4066	CMOS SWITCH	3A		MOTOROLA. MITSUBISHI ONLY
1		1	29		901510-01		9602		7C		
1		1	30		251096-01		HA16631P	FDC READ AMP	10A		
1		1	31	B	251101-01	I C	M001WT		11B		
			32								
2		2	33	B	251099-01	IC	75477	DRIVER	11C, 11D		
			34								
2		2	35	B	901521-01	IC	74LS00	NAND	10H		SUBSTITUTE FOR ITEM 24
5		5	36	B	901521-30	IC	74LS14	INV	8I		SUBSTITUTE FOR ITEM 20
5		5	37	B	901522-12	IC	74145	DECODER	10B		SUBSTITUTE FOR ITEM 23

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRWN BY: J Shibamoto DATE: 6/16/83
CHKD: T. Lewis 6/17/83
ENGR: DATE:
APPR: J. Matthews 9/13/83

SIZE: B | 250416 | REV: B | SHT: 3/10

ADVANCED REPRO

QUANTITY REQD PER PART/DASH NO. 03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
S		S	38	B	901435-02	IC 6502-A MPU	1E, 2H		SUBSTITUTE FOR ITEM 43
S		S	39	↑	901435-03	6502-B MPU	1E, 2H		SUBSTITUTE FOR ITEM 43
1		1	40	|	901437-01	6522 VIA	5E		
		1	41	|	251256-01	6530-049			
2		2	42	↓	901456-01	6522 PIA	4J, 6J		
2		2	43	B	901435-01	IC 6502 MPU	1E, 2H		
			44						
			45						
			46						
1		1	47	B	901467-01	IC 6316 MASK ROM	5C		
			48						
			49						
			50						
			51						
			52						
1		1	53	B	901887-01	IC 2364-118 MASK ROM	1J		$C000~$DFFF
			54						
			55						
			56						
			57						
			58						
1		1	59	B	901888-01	IC 2364-119 MASK ROM	3J		$E000~$FFFF
			60						
			61						
			62						
			63						
			64						
S		S	65	B	325502-08	IC HM6116P-4 RAM	7G, 9G		SUB STITUTE FOR ITEM 67
S		S	66	B	325502-07	IC TMM2016P-2 RAM	7G, 9G		SUB STITUTE FOR ITEM 67
2		2	67	B	325502-01	IC M5M5125P RAM	7G, 9G		
			68						
			69						
			70						
			71						
			72						
			73						
			74						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRWN BY: Y. Shibamoto DATE 6/16/83
CHKD: T. Tokuda 6/17/83

ENGR: DATE
APPR: T. MATSUKAWA 5/11/83

SIZE B | 250416 | REV B | SHT 3/10

ADVANCED REPRO

QUANTITY REQD PER PART / DASH NO. 03	201	ITEM	BS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
5	5	75	B	902693-01	TRANSISTOR NPN 2SC1815	Q1-Q3,Q5,Q6		
1	1	76	B	902744-01	TRANSISTOR PNP 2SA1015	Q4		
		77						
S	S	78	B	902671-01	TRANSISTOR NPN 2SC945	Q1-Q3,Q5,Q6		NEC SUBSTITUTE FOR ITEM 75
S	S	79	B	902717-01	TRANSISTOR PNP 2SA733	Q4		NEC SUBSTITUTE FOR ITEM 76
		80						
		81						
		82						
4	4	83	B	900850-07	DIODE SIGNAL 1S953	CR1-CR3,CR5		NEC
S	S	84	B	900850-14	DIODE SIGNAL 1S1588	CR1-CR3,CR5		TOSHIBA SUB STITUTE FOR ITEM 83
S	S	85	B	900850-02	DIODE SIGNAL 1S2473	CR1-CR3,CR5		ROHM SUB STITUTE FOR ITEM 83
		86						
		87						
		88						
1	1	89	B	325506-01	DIODE ZENER 500mW 5.1±0.1V	CR4		
S	S	90	B	325506-02	DIODE ZENER	CR4		NEC RD5.1EB SUBSTITUTE FOR ITEM89
		91						
		92						
		93						
4	4	94	B	251100-02	DIODE ARRAY 2 ELEMENT DAP-201	DA1-DA4		
		95						
		96						
		97						
		98						
		99						
		100						
		101						
		102					C50-56,C71-73	
56	61	103	B	251073-04	CAPACITOR CERAMIC 0.1μF/50V	C9,C12,C13,C16	C21-24,C67-70,C74-102	
1	1	104	B	251069-14	0.022μF/50V	C44		
		105						
14	14	106	B	251072-18	47PF/50V	C14,C31-C43		
2	2	107	B	251070-22	100PF/50V	C20,C29		
1	1	108	B	251070-24	CAPACITOR CERAMIC 150PF/50V	C19		
		109						
		110						
		111						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRAWN BY: Y. Shibanoto DATE 6/16/83
CHKD: T. Tsuda 6/17/83
ENGR: DATE
APPR: T. Matsumoto 7/5/83

SIZE B | 250416 | REV B | SHT 4/10

ADVANCED REPRO

QUANTITY REQD PER PART/DASH NO. 03	02	01	ITEM	OS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
1		1	112	B	251072-26	CAPACITOR CERAMIC 220PF/50V	C15		
1		1	113	B	251072-28	CERAMIC 330PF/50V	C17		
1		1	114	B	251069-08	CERAMIC 0.01μF/50V	C45		
1		1	115	B	251072-27	CERAMIC 270PF/50V	C18		
			116						
1		1	117	B	251304-13	MONOLITHIC CERAMIC 120PF/50V±5%	C5		MURATA RPE 110 CH 121 J 50 P=7.5mm
1		1	118	↑	251304-14	150PF/50V±5%	C10		RPE 110 CH 151 J 50
1		1	119	↕	251304-17	270PF/50V±5%	C4		RPE 110 CH 271 J 50
1		1	120	↕	251304-22	680PF/50V±5%	C11		RPE 110 CH 681 J 50 P=7.5mm
1		1	121	↓	251304-55	3300PF/50V±20%	C6		RPE 110 C 332 M 50 P=5 mm
9		4	122	B	251304-87	CAPACITOR MONOLITHIC CERAMIC 0.1μF/50V	C1-C3, C28		MURATA RPE 122 F 104 Z 50 P=5 mm
			123				C67-C70, C74		
			124						
			125						
S		S	126	B	325549-04	CAPACITOR FILM 0.039μF/50V±5%	C27		SHINEI DEP 393 J, SUBSTITUTE FOR ITEM 127
1		1	127	B	325549-03	CAPACITOR FILM 0.039μF/50V±5%	C27		NICHICON TDY-1H-393J P=5mm
			128						
			129						
1		1	130	B	900410-04	CAPACITOR TANTALUM 1μF/16V	C46		NEC DAIC 010M
2		2	131	B	900402-03	CAPACITOR TANTALUM 4.7μF/25V	C7, C8		NEC CS15E4R7M1S
			132						
			133						
2		2	134	B	900100-25	CAPACITOR ELEC. LOW LEAK 10μF/16V	C48, C49		HARCON CEUSM1C100
2		2	135	B	900100-40	CAPACITOR ELEC 100μF/16V	C25, C26		↕ CEUSM1C101
1		1	136	B	900100-51	CAPACITOR ELEC 220μF/10V	C47		MARCON CEUSM1A221
			137						
1		1	138	B	251029-02	CAPACITOR TRIMMER 120PF/50V	VC1		MURATA TZ03R121E
			139						
			140						
			141						
1		1	142	B	251068-51	RESISTOR CARBON 1/4W, ±5% 100Ω	R14		RADIAL FORMING
3		3	143	B	-55	150Ω	R49, R50, R53		
2		2	144	B	-71	680Ω	R36, R37		
5		5	145	B	-76	1KΩ	R21, R27, R57-R59		
7		7	146	B	-83	2KΩ	R22, R41, R42	R55	R56, R61, R62
7		7	147	B	251068-84	RESISTOR CARBON 1/4W, ±5% 2.2KΩ	R7, R8, R10, R34, R35	R39	R43 RADIAL FORMING
			148						
			149						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRAWN BY: Y. Shibanato DATE 6/16/83
CHKD: T. Tokuda 6/17/83
ENGR: DATE
APPR: T. Matsuda 9/13/83

SIZE B | 250416 | REV B | SHT 5/10

ADVANCED REPRO

QUANTITY REQD PER PART / DASH NO. 03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
2		2	149	B	251068 - 85	RESISTOR CARBON 1/4W, ±5% 2.4kΩ	R68, R69		RADIAL FORMING
1		1	150	↑	- 86	2.7kΩ	R32		↑
3		3	151	↕	- 93	5.1kΩ	R63, R70, R71		↕
6		6	152	↕	-101	10kΩ	R13, R26, R30, R31	R38	R66
1		1	153	↕	-105	15kΩ	R23		↕
1		1	154	↕	-113	33kΩ	R33		↕
1		1	155	↕	-116	43kΩ	R46		↕
2		2	156	↕	-117	47kΩ	R12, R54		↕
1		1	157	↕	-123	82kΩ	R45		↕
1		1	158	↓	-126	100kΩ	R67		↓
2		2	159	B	251068 - 63	RESISTOR CARBON 1/4W, ±5% 330Ω	R64, R65		RADIAL FORMING
			160						
			161						
1		1	162	B	901600 - 45	RESISTOR CARBON 1/2W ±5% 68Ω	R60		RADIAL FORMING
			163						
			164						
2		2	165	B	251575 - 09	RESISTOR METAL OXIDE 1/4W ±1% 75Ω	R19, R29		RADIAL FORMING
1		1	166	↑	- 18	100Ω	R25		↑
1		1	167	↕	- 20	200Ω	R24		↕
1		1	168	↕	- 19	226Ω	R28		↕
1		1	169	↕	- 17	7.15kΩ	R44		↕
2		2	170	↕	251575 - 48	1/4W, ±1% 33.2kΩ	R47, R48		RADIAL FORMING
1		1	171	↕	902180 - 06	RESISTOR METAL OXIDE 1W ±5% 110Ω	R40		AXIAL LEAD
			172	↕					
1		1	173	↕	251575 - 46	RESISTOR METAL OXIDE 1/4W, ±1% 174Ω	R20		RADIAL FORMING
2		2	174	↕	251575 - 15	RESISTOR METAL OXILE 1/4W, ±1% 4.02kΩ	R3, R4		↕
1		1	175	↕	251068 - 58	RESISTOR CARBON 1/4W, ±5% 300Ω	R11		↕
2		2	176	↕	- 65	390Ω	R5, R6		↕
2		2	177	↓	- 67	470Ω	R15, R16		↓
2		2	178	B	251068 - 80	RESISTOR CARBON 1/4W, ±5% 1.5kΩ	R17, R18		RADIAL FORMING
			179						
			180						
1		1	181	B	251068 - 94	RESISTOR CARBON 1/4W, ±5% 5.6kΩ	R9		RADIAL FORMING
2		2	182	B	251068 - 95	RESISTOR CARBON 1/4W, ±5% 6.2kΩ	R1, R2		RADIAL FORMING
			183						
			184						
			185						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRWN BY:	DATE	ENGR:	DATE	SIZE		REV	SHT
Y. Shibamoto	6/16/83			B	250416	B	6/10
CHKD: T. Tsuda	6/17/83	APPR: T. MASUDA	9/13/83				

ADVANCED REPRO

QUANTITY REQD PER PART / DASH NO. 03	02	01	ITEM	OS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
1		1	186	B	902265-06	POT. METER 20kΩ	VR1		NOBLE VM6CK(PV)B 20kΩ
			187						
			188						
			189						
2		2	190	B	251126-33	COIL, INDUCTOR 100 uH	L3, L4		
2		2	191	B	251126-35	〃 150 uH	L1, L2		
1		1	192	B	325513-01	〃 2.2 uH	L6		
1		1	193	B	325513-03	COIL, INDUCTOR 100 uH	L5		
			194						
			195						
1		1	196	B	904150-04	SOCKET, IC LOW PROFILE 24 PIN	5C		
2		2	197	B	904150-05	SOCKET, IC LOW PROFILE 28 PIN	1J, 3J		
6		6	198	B	904150-06	SOCKET, IC LOW PROFILE 40 PIN	1E 3E 5E 2H 4J 6J		
			199						
			200						
16		16	201	B	325563-01	FERRITE BEAD	FB1-FB16		RADIAL FORMING
			202						
			203						
			204						
1		1	205	B	325562-03	HEADER ASSY SINGLE LINE 2.5 PITCH 3PIN	P3		MOLEX 3022-03A
1		1	206	B	251460-02	〃 SINGLE LINE 3.96 PITCH 2PIN	P5		MOLEX 5274-02A
1		1	207	B	325520-04	〃 SINGLE LINE 3.96 PITCH 4PIN	P4		MOLEX 5273-04A
1		1	208	B	250415-10	〃 DUAL IN LINE 2.54 PITCH 12PIN	P2		
1		1	209	B	250415-11	HEADER ASSY DUAL IN LINE 2.54 PITCH 24PIN	P1		
			210						
1		1	211	B	903206-02	CONNECTOR RT ANGLE IEEE-488 24 PIN	P7		MITSUMI CINCH M57-24-30-345
1		1	212	B	325566-08	CRYSTAL MODULE 12MHz, 100PPM	11G		KYOCERA KXO-12MHz 100PPM
1		1	213	C	251203	P.C. BOARD SINGLE FLOPPY CONTROL			GLASS EPOXY UL-94V-2 315 x 180 x 1.6t
REF		REF	214	B	251409-01	PCB. CONTROL ART WORK			FOR MASK ROM
			215						
2		2	216	B	251403-03	SCREW M3 SEMS PHILLIPS FAN HEAD			CONNECTOR RT ANGLE IEEE-488 (2) LG10
			217						
			218						
			219						
			220						
			221						
			222						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

DRWN BY: Y. S Ribanalo DATE 6/16/83
CHKD: T. Tokuda 6/17/83
ENGR: DATE
APPR: T. HOTSUMI 6/23/83

SIZE B | 250416 | REV B | SHT 7/10

ADVANCED REPRO

QUANTITY REQD PER PART/DASH NO. 03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
1			223	B	250414 -01	PCB ASSY, 6530 ADAPTOR	3E		
			224						
1			225	B	251407 -04	SPACER			NJRC 9550H00010 L=6mm BP-976C
			226						
1			227	B	251403 -05	SCREW M3 SEMS PHILLIPS PAN HEAD			LG 14
			228						
			229						
1			230	B	905960-03	NUT, HEXAGON, METRIC			M3
			231						
1			232	B	251461 -01	WASHER, PLAIN			M3
			233						
			234						
			235						
REF		REF	236	D	251406-01	SCHEMATIC DIAGRAM			PCB ASSY CONTROL
			237						
			238						
			239						
			240						
			241						
			242						
			243						
			244						
			245						
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			256						
			257						
			258						
			259						

commodore

TITLE: PCB ASSY, SINGLE FLOPPY CONTROL

		DATE
DRWN BY:	Y. Shibamoto	6/16/83
CHKD:	T. Takeda	6/17/83
ENGR:		DATE
APPR:	T. HATSUMORI	9/12/83

SIZE B | 250416 | REV B | SHT 8/10

ADVANCED REPRO

PART NO.	DESCRIPTION	
250651-01	POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001	UL
↑ -02	↑	CSA
-03		JIS
↓ -04	↓	VDE
250651-05	POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001	BSI

[Fold Here]

DWG. NO. 250651

TITLE: POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001

REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	9-13-83	
B		REVISED PER ECO 830452	10-31-83	

1. SHEET 4 OF 5 SIZE D
ASSY DWG 5 OF 5 SIZE C

NOTES-UNLESS OTHERWISE SPECIFIED:

commodore	DRAWN BY: Y. Utsunomiya	6-1-83	ENGR	6-17-83	SIZE B	SHEET 1 OF 5
	CHKD T. Tokuda	6-17-83	APPD	9/13/83		

QUANTITY REQD PER PART / DASH NO. -05	-04	-03	-02	-01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
1	1	1	1	1	1	D	251310 -01	POWER CHASSIS, SFD-1001			
					2						
			1		3	B	251401 -01	METAL, NET			
					4						
1	1	1	1	1	5	B/C	250417 -01	PCB ASSY, SINGLE FLOPPY POWER SUPPLY			
					6						
					7						
					8						
1	1	1	1	1	9	B/C	250416 -03	PCB ASSY, SINGLE FLOPPY CONTROL			
					10						
					11						
1	1	1	1	1	12	B	251091-02	FLOPPY DISK DRIVE 100TPI DOUBLE SIDED			JU-570-2 MATSUSHITA COMMUNICATION CO. LTD.
					13						
					14						
					15						
					16						
		1	1	1	17	B	903614 - 01	FUSE HOLDER	HF1		ECHO FH022
1	1				18	B	903615 - 01	FUSE HOLDER	HF1		ECHO FH033
					19						
					20						
					21						
					22						
1	1	1	1	1	23	B	904509 - 01	SWITCH, ROCKER	SW1		
					24						
					25						
					26						
1	1	1		1	27	B	325552 - 01	POWER FILTER CONNECTOR	FL1		TOKIN GL-2030E
			1		28	B	325552 - 02	POWER FILTER CONNECTOR	FL1		TOKIN GL-2030E-12
1	1	1	1	1	29	B	1540010-04	GROUND CABLE ASSY			L=170mm
					30						
					31						
					32						
					33						
					34						
					35						
					36						
					37						

commodore

TITLE: POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001

DRAWN BY: [illegible] 6/16/83

CHKD: [illegible] 9/13/83

ENGR:

APPR: [illegible] 9/13/83

SIZE B | 250651 | REV B | SHT 2/5

QUANTITY REQD PER PART / DASH NO. 05	04	03	02	01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
		1	1	1	38	B	903555-19	FUSE 0.8A, 250V, SLO-BLO	F1		6.3 DIA X 30 NORMAL SIZE
1	1				39	B	903558-06	FUSE 0.4A, 250V, SLO-BLO	F1		5 DIA X 20 MINIATURE SIZE
					40						
					41						
					42						
		S	S	1	43	B	251201-01	TRANSFORMER	T1		UL 117/100V SUBSTITUTE FOR ITEM 44
		1	1		44	B	251201-02	TRANSFORMER	T1		CSA, JIS 117/100V
1	1				45	B	251201-03	TRANSFORMER	T1		VDE, BSI 240/220V
					46						
					47						
					48						
					49						
1	1	1	1	1	50	B	200017-03	LEAD WIRE AWG18 1015			L = 150mm BLACK
1	1	1	1	1	51	B	200017-04	LEAD WIRE AWG18 1015			L = 80 mm BLACK
					52						
					53						
					54						
					55						
					56						
7	7	7	7	7	57	B	905476-02	TUBING, SHRINCABLE			Φ5 L=20mm
1	1	1	1	1	58	B	905476-04	TUBING, SHRINCABLE			Φ4 L=40mm
					59						
					60						
					61						
9	9	9	15	9	62	B	325541-02	SCREW, WITH EXT TOOTH METRIC, M3			PCB (7), HEATSINK (2), METAL NET (6), PAN HEAD PHILLIPS LG 6
1	1	1	1	1	63	B	325542-02	" , WITH EXT TOOTH METRIC, M4			GROUND (1), PAN HEAD PHILLIPS LG 6
4	4	4	4	4	64	B	325548-04	" , METRIC, M5			TRANSFORMER (4), PAN HEAD PHILLIPS WITH SPRING WASHER LG 10
4	4	4	4	4	65	B	325541-04	SCREW, WITH EXT TOOTH METRIC, M3			FLOPPY DISK (4), PAN HEAD PHILLIPS LG 10
2	2	2	2	2	66	B	906803-03	FLAT HEAD SCREW M3			FILTER CONNECTOR (2), FLAT HEAD PHILLIPS LG 10
2	2	2	2	2	67	B	251403-01	SCREW M3 SEMS PHILLIPS PAN HEAD			PCB RS (2), LG 6
					68						
A/R	A/R	A/R	A/R	A/R	69	B	904907-02	HEATSINK COMPOUND THERM. CONDUCTIVE			
					70						
					71						
					72						
					73						
					74						

commodore

TITLE: POWER SUPPLY ASSY, SINGLE FLOPPY SFD-1001

DRWN BY: [illegible] DATE: 6/16/83

CHKD: [illegible] DATE: 6/17/83

ENGR: DATE:

APPR: [illegible] DATE: 9/13/83

SIZE: B | 250651 | REV: B | SHT: 5/5

ADVANCED REPRO

PART NO.	DESCRIPTION	
250649-01	MAIN ASSY, SINGLE FLOPPY SFD-1001	UL
-02		CSA
-03		JIS
-04		VDE
250649-05	MAIN ASSY, SINGLE FLOPPY SFD-1001	BSI

(Fold Here)

DWG NO. 250649

TITLE: MAIN ASSY, SINGLE FLOPPY SFD-1001

REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	7-13-83	

[2] NOT USE ITEM 27 AND 28 UNTILL RECOGNIZE CSA & UL.

1. SHEET 4 OF 4 SIZE D
ASSY DWG

NOTES-UNLESS OTHERWISE SPECIFIED:

commodore	DRAWN BY: [illegible]	DATE 6/16/83	ENGR [illegible]	6/17/83	SIZE B	SHEET 1 OF 4
	CHKD T. Tokuda	6/17/83	APPR: [illegible]	6/17/83		

QUANTITY REQD PER PART / DASH NO. -05	-04	-03	-02	-01	ITEM	DS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
					1						
					2						
					3						
				1	4	B/C	250650-01	BASE ASSY, SINGLE FLOPPY SFD-1001 UL			
			1		5	B/C	-02	CSA			
		1			6	B/C	-03	JIS			
	1				7	B/C	-04	VDE			
1					8	B/C	250650-05	BASE ASSY, SINGLE FLOPPY SFD-1001 BSI			
					9						
					10						
					11						
					12						
					13						
					14						
					15						
					16						
					17						
1	1	1	1	1	18	B	251303-01	PLATE MODEL, SFD-1001			
					19						
					20						
					21						
					22						
4	4	4	4	4	23	B	950150-02	FOOT SELF ADHESIVE			SJ5012
					24						
					25						
					26						
			1		27	B	255014-01	LABEL, RATING SFD-1001			CSA, [2]
				1	28	B	255014-02	LABEL, RATING SFD-1001			UL, [2]
		1			29	B	255014-03	LABEL, RATING SFD-1001			JIS
	1				30	B	255014-04	LABEL, RATING SFD-1001			VDE
1					31	B	255014-05	LABEL, RATING SFD-1001			BSI
			S	S	32	B	255014-06	LABEL, RATING SFD-1001			SUBSTITUTE FOR ITEM 27 & 28, [2]
					33						
					34						
					JJ						
					36						
					37						

commodore

TITLE: MAIN ASSY, SINGLE FLOPPY SFD-1001

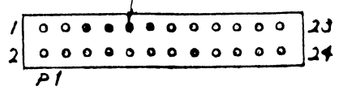
DRWN BY: M. Tsunomiya 5/16/83
CHKD: T.S.L.Co 5/17/83
ENGR:
APPR: T. MIYAMAE 5/13/83
DATE

SIZE B | 250649 | REV A | SHT 2/4

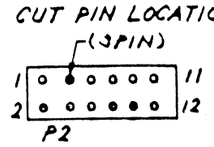
ADVANCED REPRO

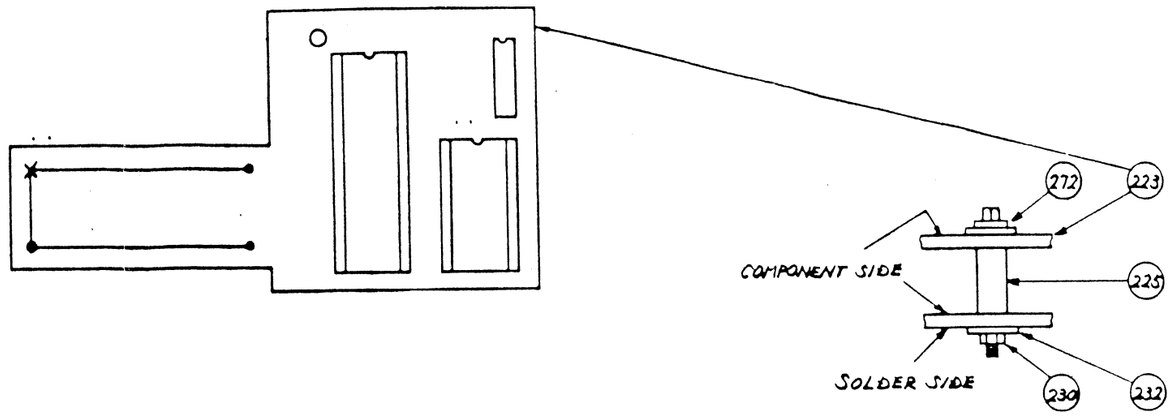
REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		

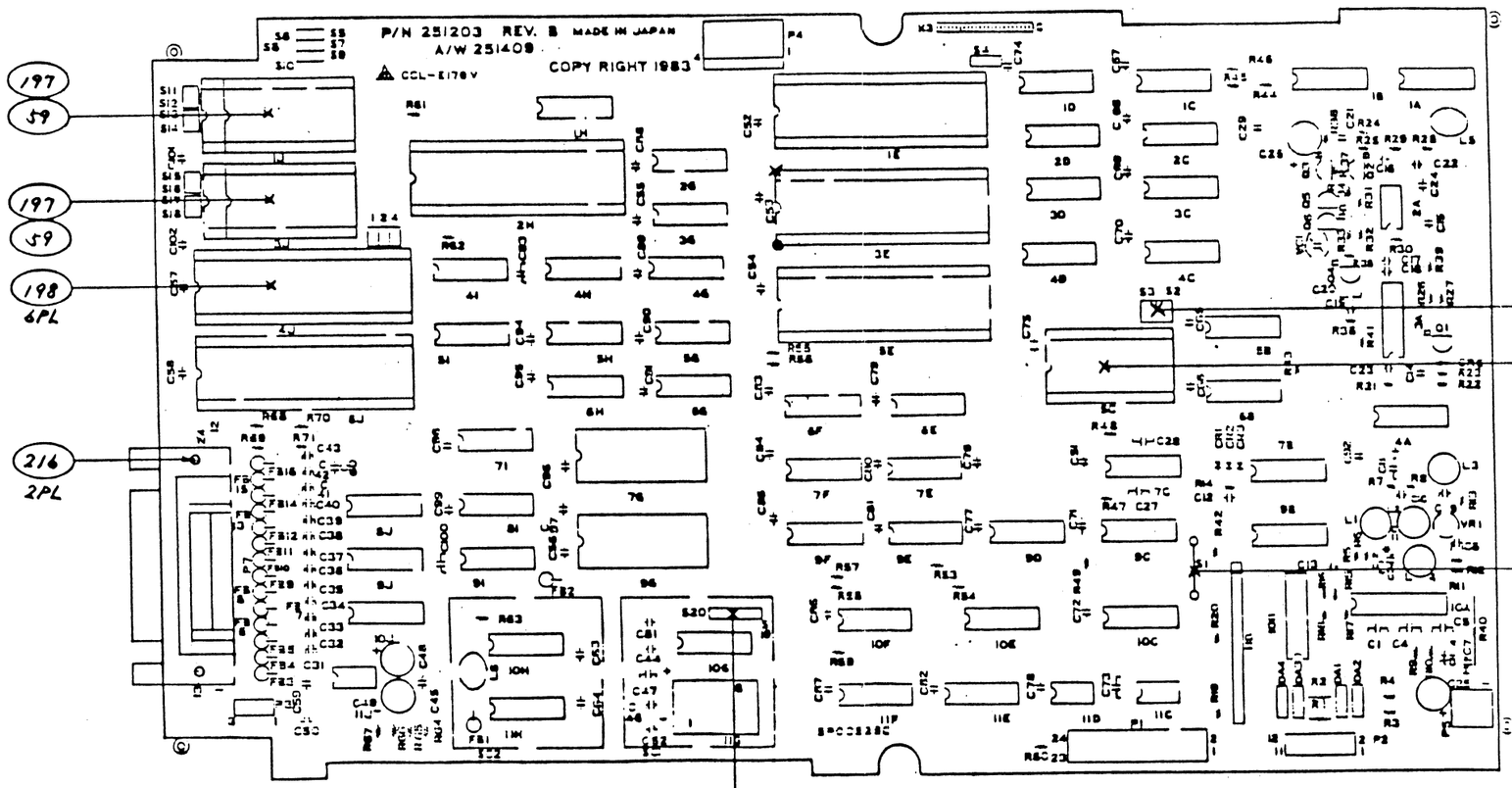
CUT PIN LOCATION
(9 PIN)



CUT PIN LOCATION
(3 PIN)







JUMPER CONNECTION TABLE

MODEL	S1	S2	S3	S4	S5-S18	S19	S20
SFD-1001	SHORT	SHORT	OPEN	SHORT		SHORT	OPEN

JUMPER CONNECTION

	4 MHz	6 MHz
S19	OPEN	SHORT
S20	SHORT	OPEN

-03 SHOWN

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS X .1 XX .01 XXX .005 ANG 1°

MATERIAL:

FINISH:

		DATE
DRAWN BY: N. Hangarma		1-6-84
CHKD: H.N	V.N.	1-9-84
ENGR: T. Takeuchi		1/10/84
APPR:		

USED ON | NEXT ASSY

commodore

PCB ASSY, SINGLE FLOPPY CONTROL

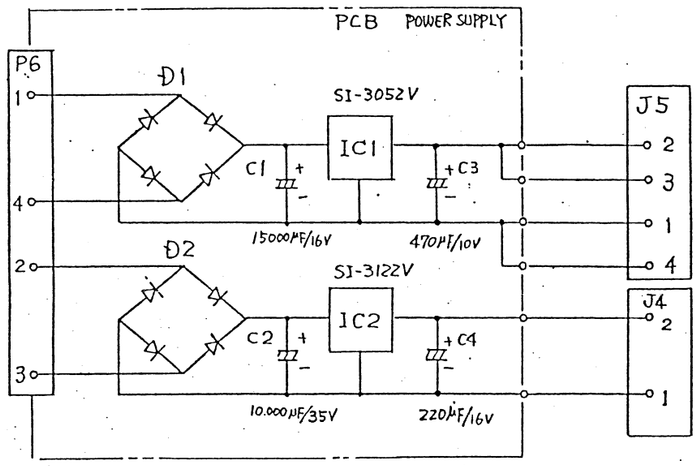
SIZE		REV
C	250416	B

SCALE NONE SHEET 10 OF 10

THIRD ANGLE SYSTEM. DIMENSIONS: mm

41

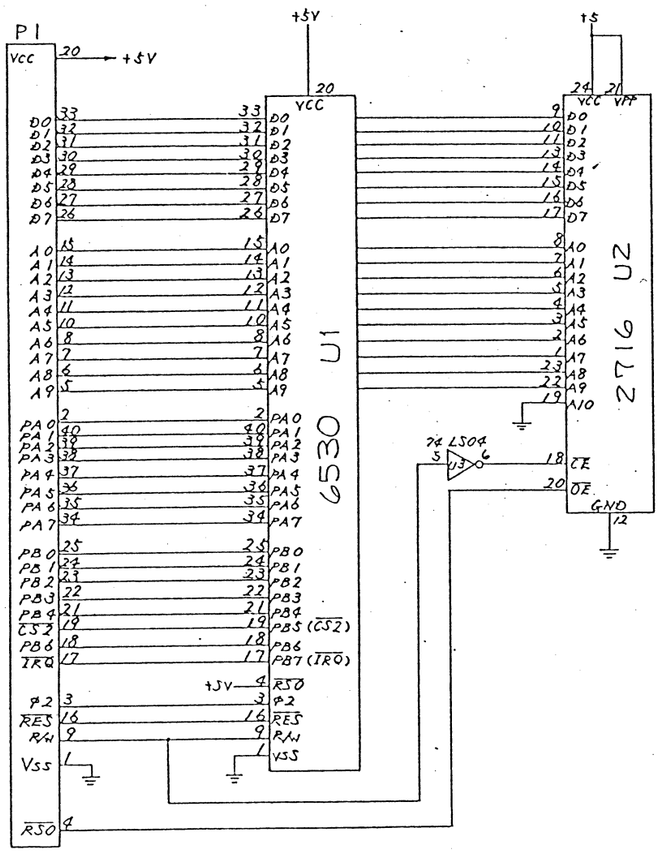
REVISIONS					
LTR	ZONE		DESCRIPTION	DATE	APPROVED
A			PRODUCTION RELEASE	9-13-83	



UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X ± .XX ± .XXX ± ∠'S ±	DRAWN BY: Y. Shibanato 6/16/83	commodore
	CHKD: T. Takeuda 6/16/83	SCHEMATIC DIAGRAM
	ENGR: [illegible] 9/13/83	SINGLE FLOPPY
	APPR: T. MATSUMOTO 9/13/83	POWER SUPPLY
MATERIAL:	USED ON: SFD-1001	NEXT ASSY: 250417
FINISH:		SIZE B · 251402 · REV A
		SCALE NONE · SHEET 1 OF 1

PART NO.	NOTE
251252-01	6530 ADAPTOR FOR SFD-1001
251252-02	6530 ADAPTOR FOR 8250LP

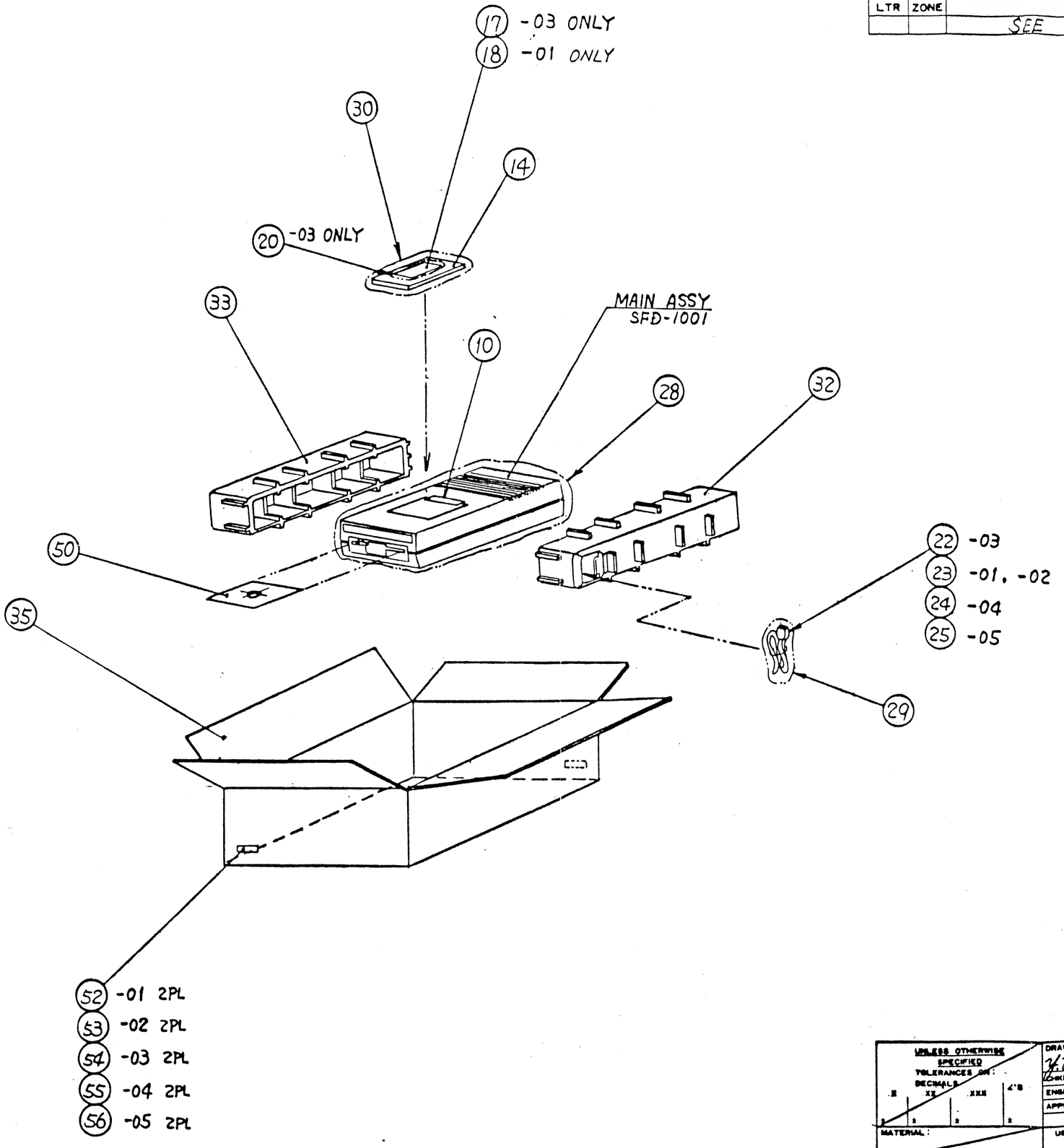
REVISIONS					
LTR	ZONE		DESCRIPTION	DATE	APPROVED
A			PRODUCTION RELEASE	9-13-83	



-01 SHOWN

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X ± .XX ± .XXX ± ∠'S ±	DRAWN BY: K. Maruyama 6/20/83	commodore
	CHKD: T. Takeuda 6/20/83	SCHEMATIC DIAGRAM
	ENGR: [illegible] 6/21/83	6530 ADAPTOR
	APPR: T. MATSUMOTO 7/13/83	
MATERIAL:	USED ON: SFD-1001	NEXT ASSY: 250414
FINISH:		SIZE B · 251252 · REV A
		SCALE NONE · SHEET 1 OF 2

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X ±, .XX ±, .XXX ±, ANG ±

		DATE
DRAWN BY:	K. Utsumomiya	9/2/83
CHKD:	[illegible]	9/13-83
ENGR:	T. Takeda	9/13/83
APPR:	[illegible]	9-13-83

MATERIAL:

FINISH:

USED ON: SFD-1001

NEXT ASSY

commodore

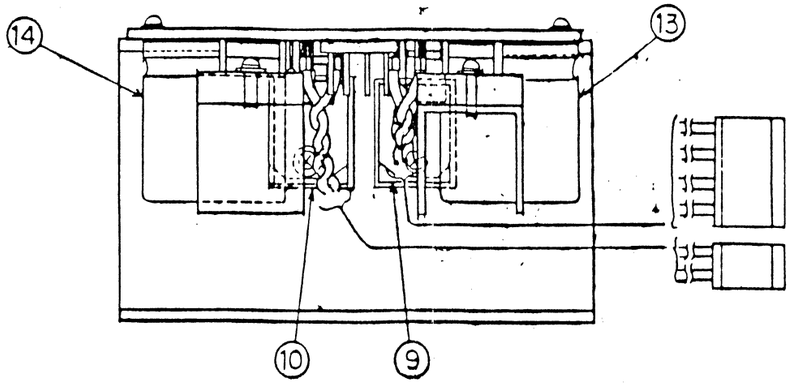
SHIPPING ASSY, SINGLE FLOPPY SFD-1001

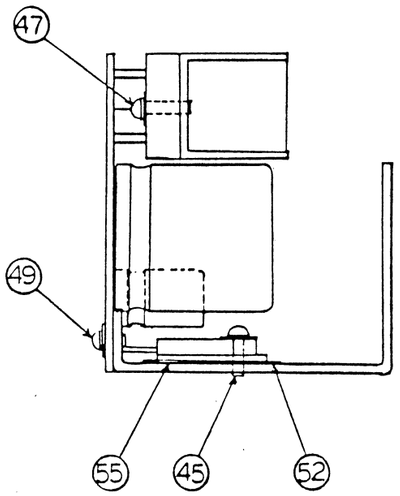
SIZE		REV
C	250208	B

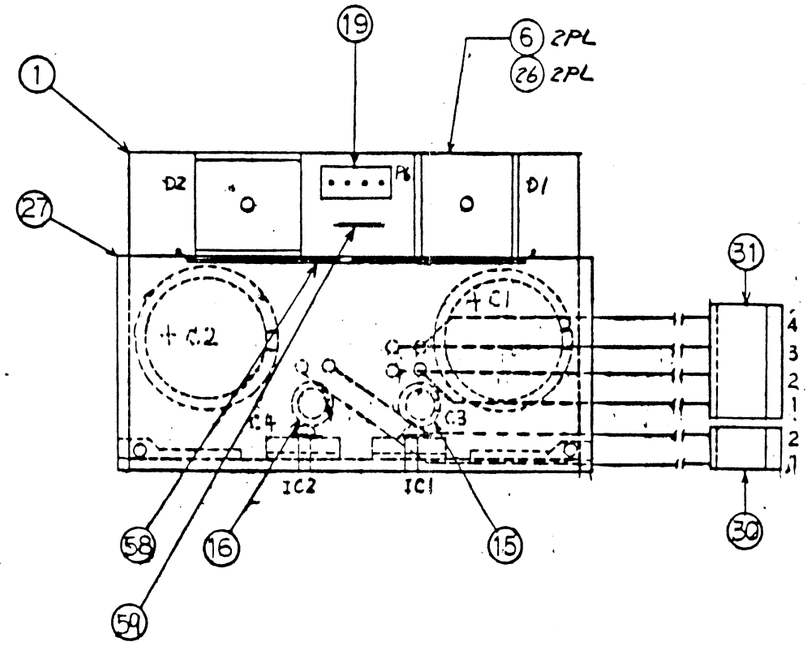
SCALE NONE | SHEET 4 OF 5

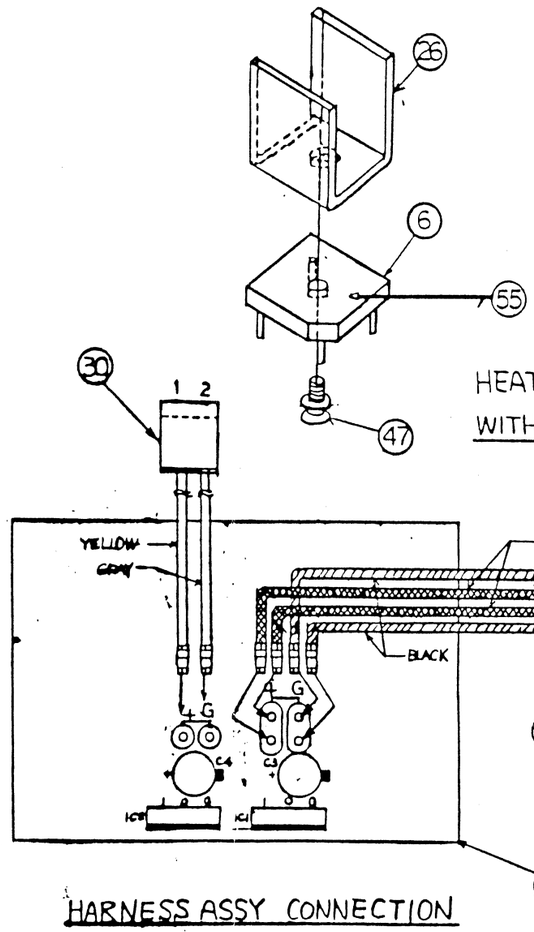
THIRD ANGLE SYSTEM. DIMENTION: mm A3 t0 p S 11 306-1303

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		









HEAT SINK ATTACHED WITH DIODE BRIDGE

HARNESS ASSY CONNECTION

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X ±.1 .XX ±.02 .XXX ±.005 ANGLES ±2°

MATERIAL:

FINISH:

		DATE
DRAWN BY:	Y. Shibamoto	6/16/83
CHKD:	T. Hayashi	6/9/83
ENGR:	K. Bowden	6/17/83
APPR:	T. Hayashi	6/18/83

USED ON	NEXT ASSY
SFD-1001	250651

commodore

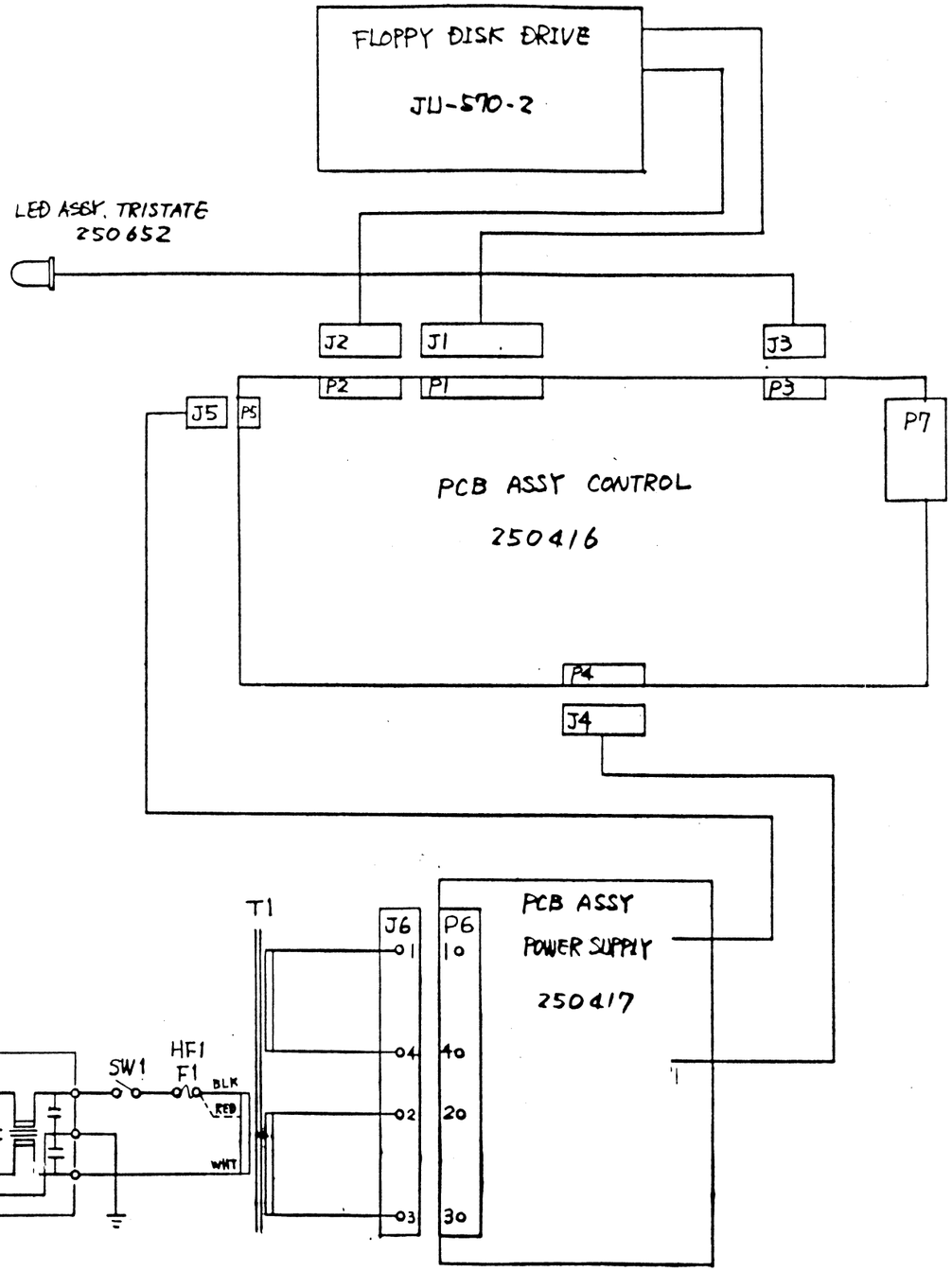
PCB ASSY
SINGLE FLOPPY
POWER SUPPLY

SIZE		REV
C	250417	A

SCALE NONE | SHEET 4 OF 4

THIRD ANGLE SYSTEM. DIMENTION: mm A3 (280) E10 200-1263

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



POWER SUPPLY ASSY DWG NO		TRANSFORMER	USE WIRE
250651-01	UL	251201-04	WHT. AND BLK.
250651-02	CSA	251201-02 OR 251201-01	WHT. AND BLK.
250651-03	JIS		WHT. AND RED.
250651-04	VDE	251201-03	WHT. AND RED
250651-05	BSI		WHT. AND BLK

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS X ± .1, XX ± .01, XXX ± .005, ANG ± 1°

MATERIAL:

FINISH:

	DRAWN BY	DATE
	Y. Shibamoto	6/16/83
CHKD	T. Takeda	6/17/83
ENGR		6/17/83
APPR	T. Kamisaka	7/13/83

USED ON: SFD-1001

NEXT ASSY: 250650

commodore

POWER SUPPLY ASSY
SINGLE FLOPPY SFD-1001
CONNECTION, DIAGRAM

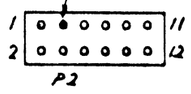
SIZE C | 250651 | REV B

SCALE NONE | SHEET 5 OF 5

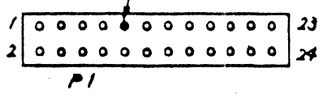
THIRD ANGLE SYSTEM. DIMENTION: mm A3 (a) ISO 10 209-1992

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1.		

CUT PIN LOCATION (3 PIN)

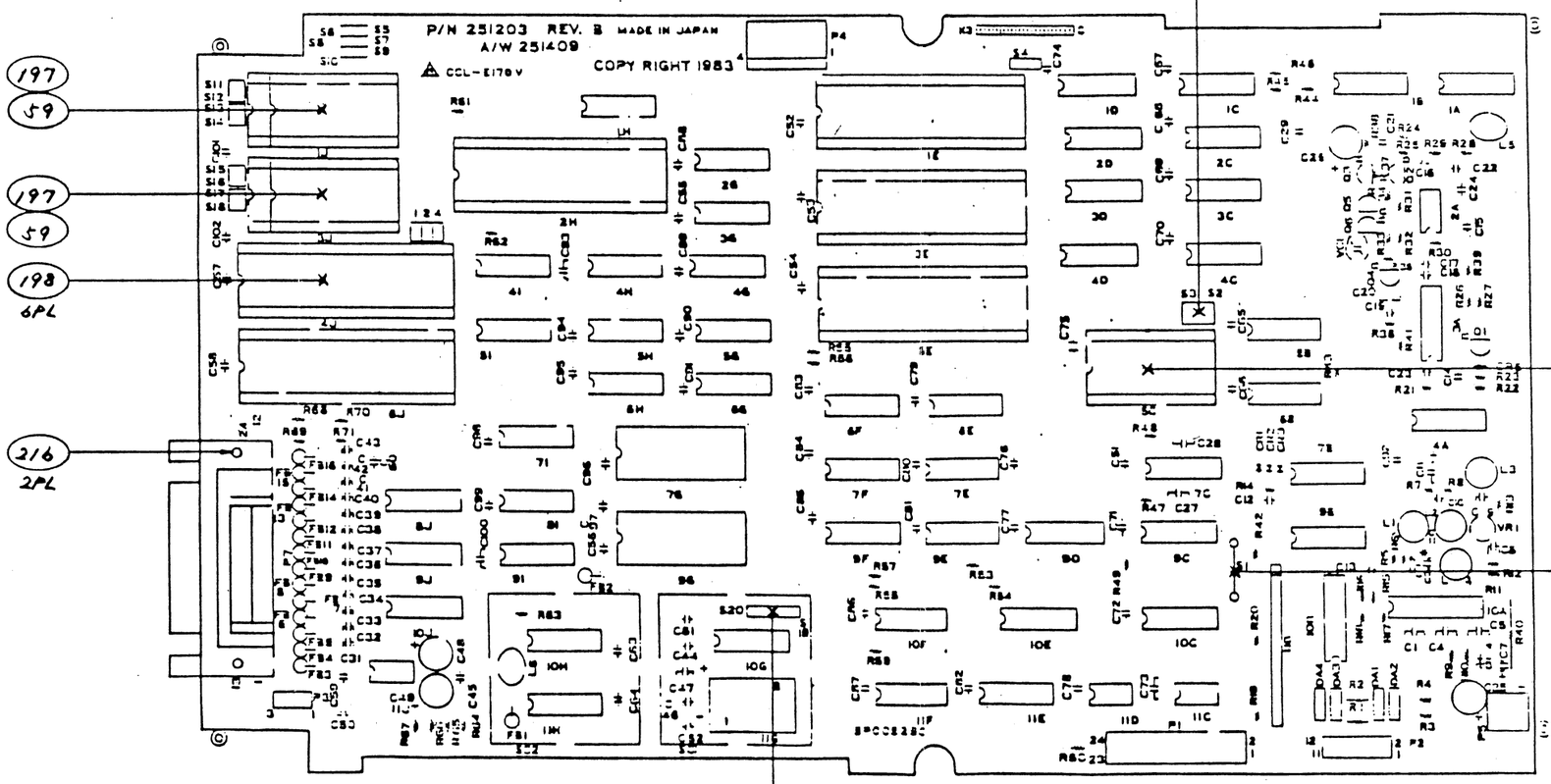


CUT PIN LOCATION (9 PIN)



JUMPER CONNECTION

DASH	-01
ROM TYPE	2316
S2	SHORT
S3	OPEN



JUMPER CONNECTION

	SINGLE SIDED	DOUBLE SIDED
S1	OPEN	SHORT
S4	OPEN	SHORT

JUMPER CONNECTION TABLE

MODEL	S1	S2	S3	S4	S5~S18	S19	S20
SFD-1001	SHORT	SHORT	OPEN	SHORT		SHORT	OPEN

JUMPER CONNECTION

	4 MHz	6 MHz
S19	OPEN	SHORT
S20	SHORT	OPEN

-01 SHOWN

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS X .XX .XXX ANGLES

MATERIAL:

FINISH:

DRAWN BY:	DATE
N. Hanamura	1-6-84
CHKD: Y.N Y.N	1-9-84
ENGR: Takeda	1/10/84
APPR:	

USED ON	NEXT ASSY
SFD-1001	250651

commodore

PCB ASSY, SINGLE FLOPPY CONTROL

SIZE C | 250416 | REV B

SCALE NONE | SHEET 9 OF 10

THIRD ANGLE SYSTEM. DIMENSION: mm

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	7-15-83	

(3A1)

(3A1) FRW · FA0 ~FA12

(3D1)

(4A1)

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS .x ±.1 .xx ±.05 .xxx ±.025 ∠ ±5°	DRAWN BY: V. Colombo	DATE 6/16/83	commodore
	CHKD: J. Peters	6/16/83	SCHEMATIC DIAGRAM
	ENGR: R. Russell	6/17/83	SINGLE FLOPPY CONTROL
	APPR: T. Mallory	7/1/83	
MATERIAL:	USED ON 5FP 1001	NEXT ASSY 250416	SIZE D 251406 REV A
FINISH:			SCALE NONE SHEET 1 OF 5

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		

(1A11) 6MHz
(1A11) D0~7
(1F1) RES
(1A11) F30
FAO~12
R/W
(1F2)
(1G11) RS0
(1G11) CS2
(4D1) ODD HD
(4C11) READ DATA
(4B1) WRITE ENABLE
(4C1) WRITE DATA OUT
(4G1) WPS
(4D1) HD SEL 1
MT ON (4D11)
READ INHIBIT (4D11)
MOTOR ON 0 (4E1)
50A (4F1)
50B
+12V
+5V
GND

6502 1E
6530 3E
6522 5E
6532 2E
6532 4E
LS163 2G
LS157 4C
LS157 3C
LS157 3D
LS164 5B
LS153 7F
LS165 6E
LF353(½)
4066(¼)
4555(¼)
2SC1815 Q1–Q6
2SA1015 Q4

SYSTEM	JUMPER S1	JUMPER S4
SINGLE SIDED	X	X
DOUBLE SIDED	O	O

ROM TYPE	JUMPER S2	JUMPER S3
2316	O	X
2516 2716	X	O

CONNECT --- O
OPEN --- X

NOTES-UNLESS OTHERWISE SPECIFIED:

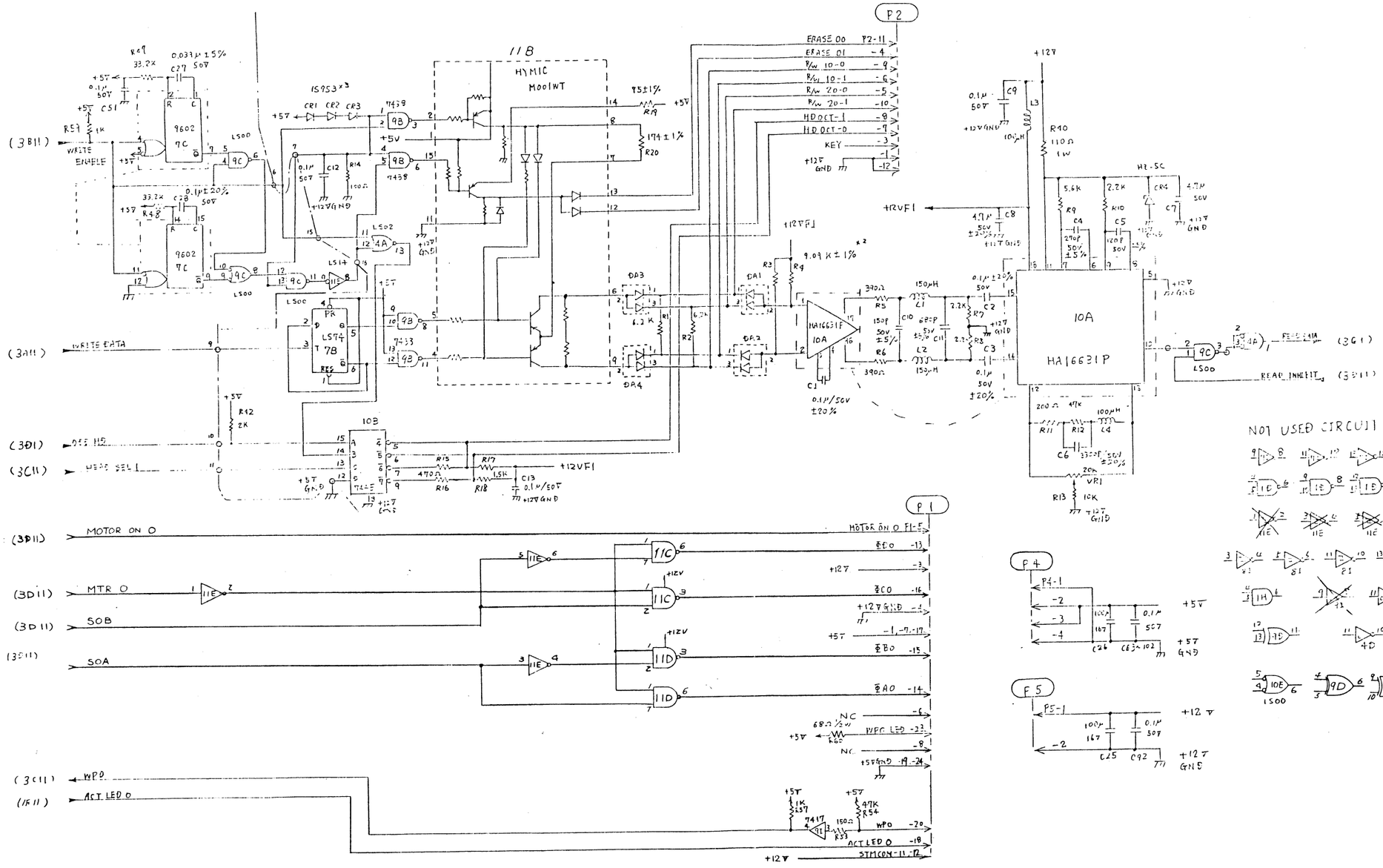
UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS x .xx .xxx ∠ ±5
MATERIAL:
FINISH:
DRAWN BY: C. Hampton 6/14/82
CHKD. T. Lewis 6/16/82
ENGR. J. Peddle 6/16/82
APPR. J. Peddle 6/23/82
USED ON
NEXT ASSY

commodore

SCHEMATIC DIAGRAM
SINGLE FLOPPY CONTROL

SIZE D | 251406 | REV A
SCALE NONE | SHEET 2 OF 3

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS: x ±.1 xx ±.02 xxx ±.005 ∠ ±3°	DRAWN BY: G. Sakamoto	DATE: 6/16/83
	CHKD: Tsuboi	6/16/83
	ENGR: G. Sakamoto	6/22/83
	APPR: T. Mukaiyama	7/15/83
MATERIAL:	USED ON	NEXT ASSY
FINISH:		

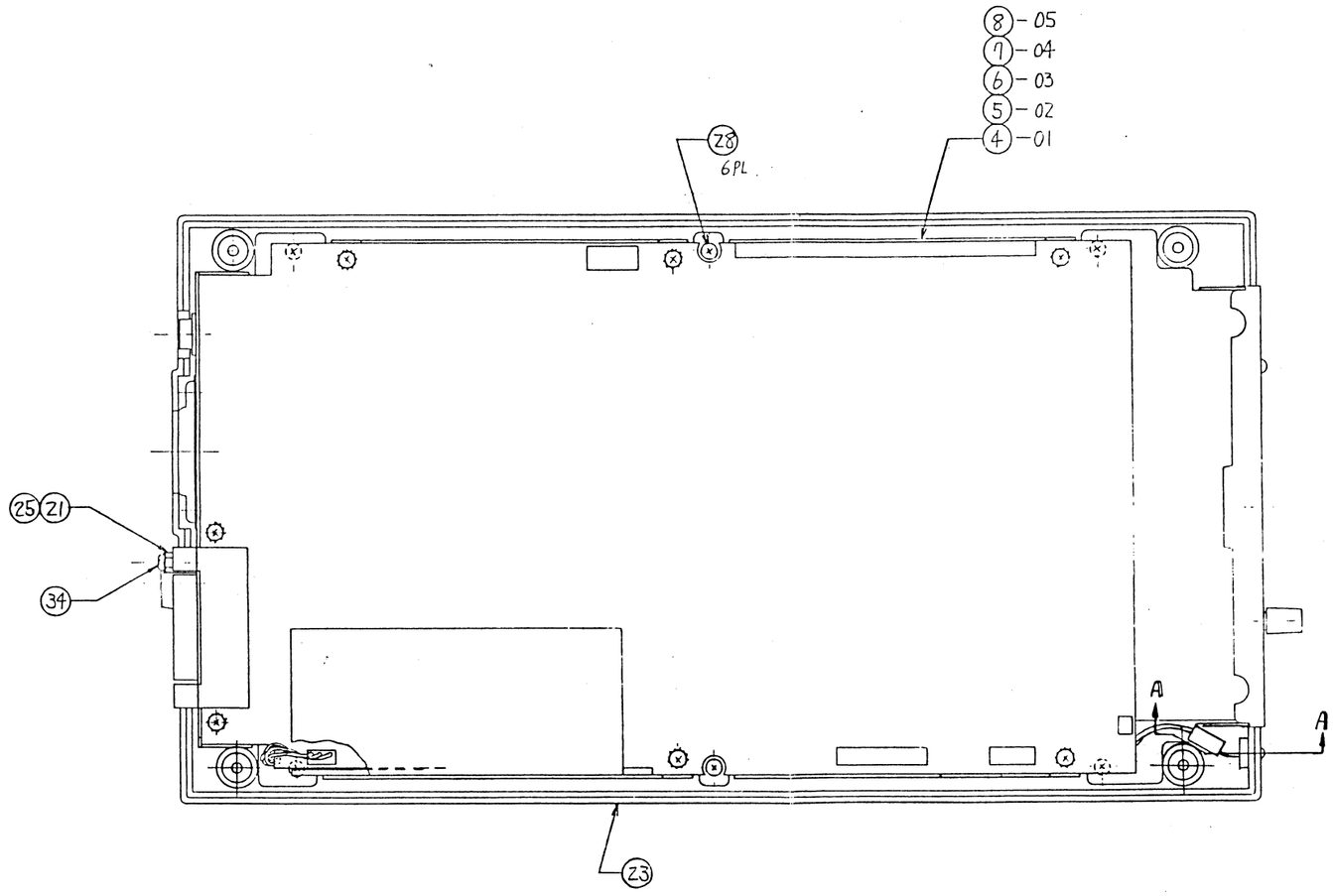
commodore

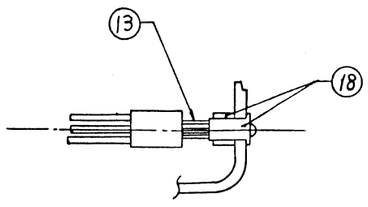
SCHEMATIC DIAGRAM
SINGLE FLOPPY CONTROL

SIZE	251406	REV
D		A

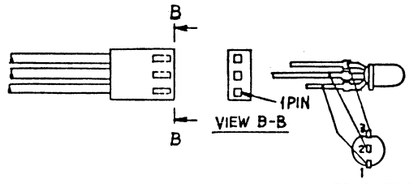
SCALE NONE SHEET 3 OF 3

SEE SHEET 1





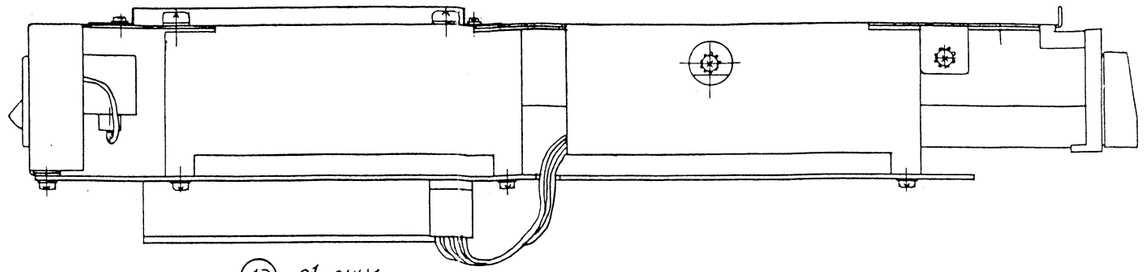
SECTION A-A

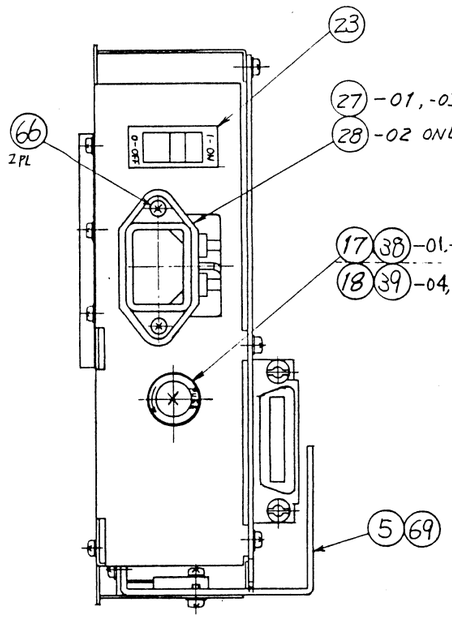


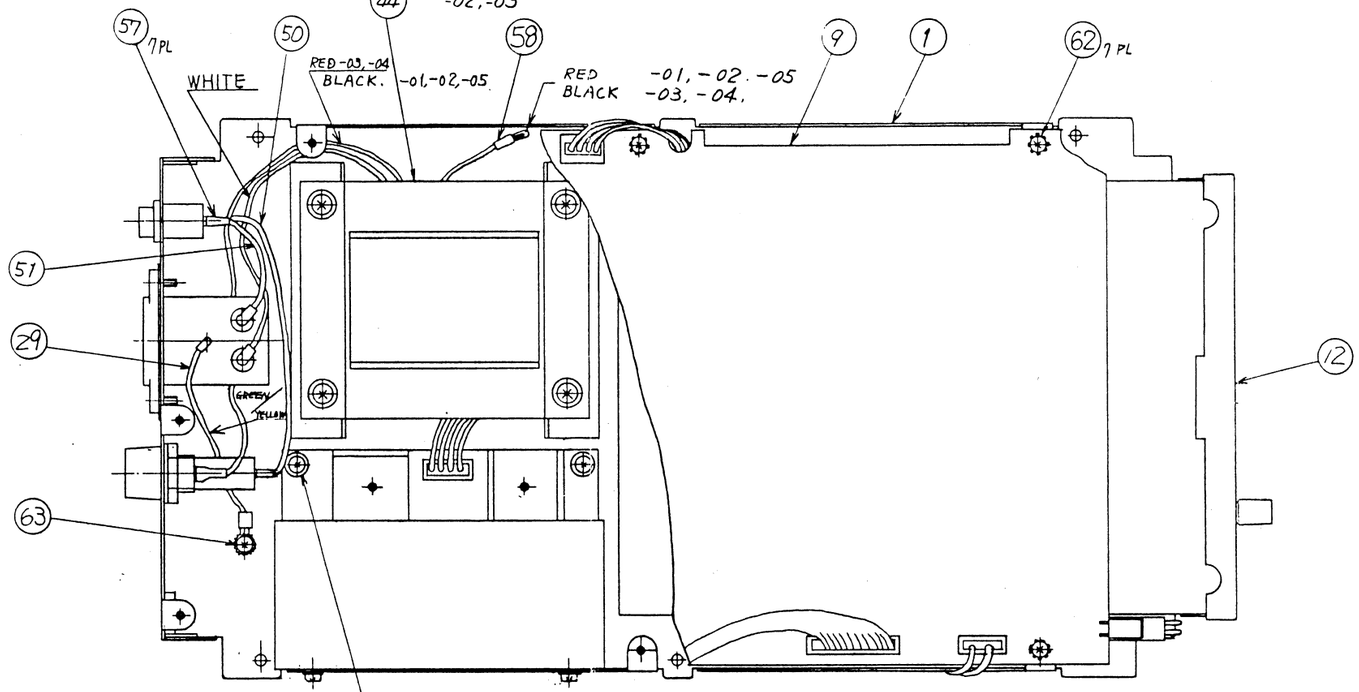
LED BOTTOM VIEW

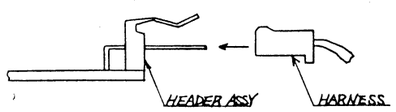
	J. Cunningham 7/2/82		BASE ASSY SINGLE FLOPPY SFD-1001
MATERIAL: FINISH	SFD -1001	250649	SIZE D 250650 REV A
			SCALE NONE SHEET 3 OF 3

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		

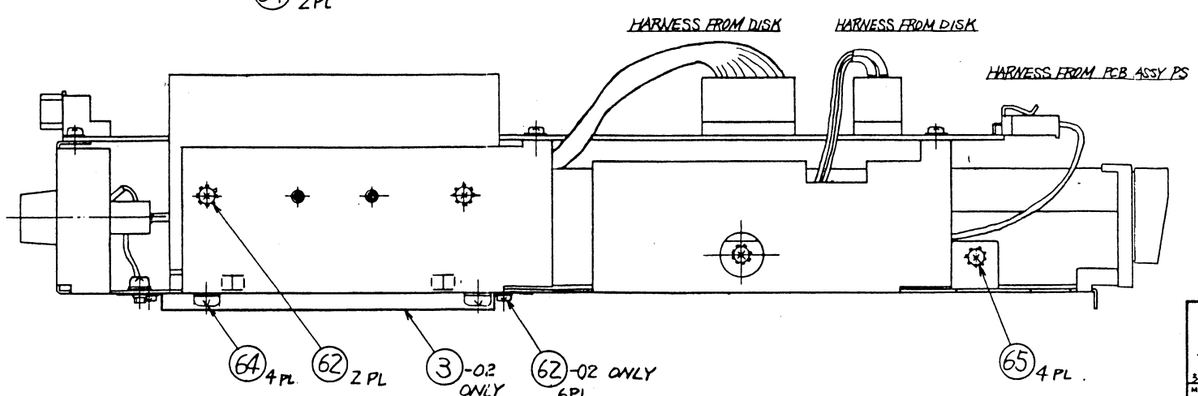








DETAIL



3. USE ITEM 69 BETWEEN ITEM 5 AND ITEM 1.

2. ALL LEADS WILL HAVE A MINIMUM OF ONE AND HALF AROUND TERMINALS PRIOR TO SOLDERING.

1. ALL HARNESS SHOULD BE CONNECTED TO EACH HEADER ASSY. (SEE DETAIL)

NOTES.

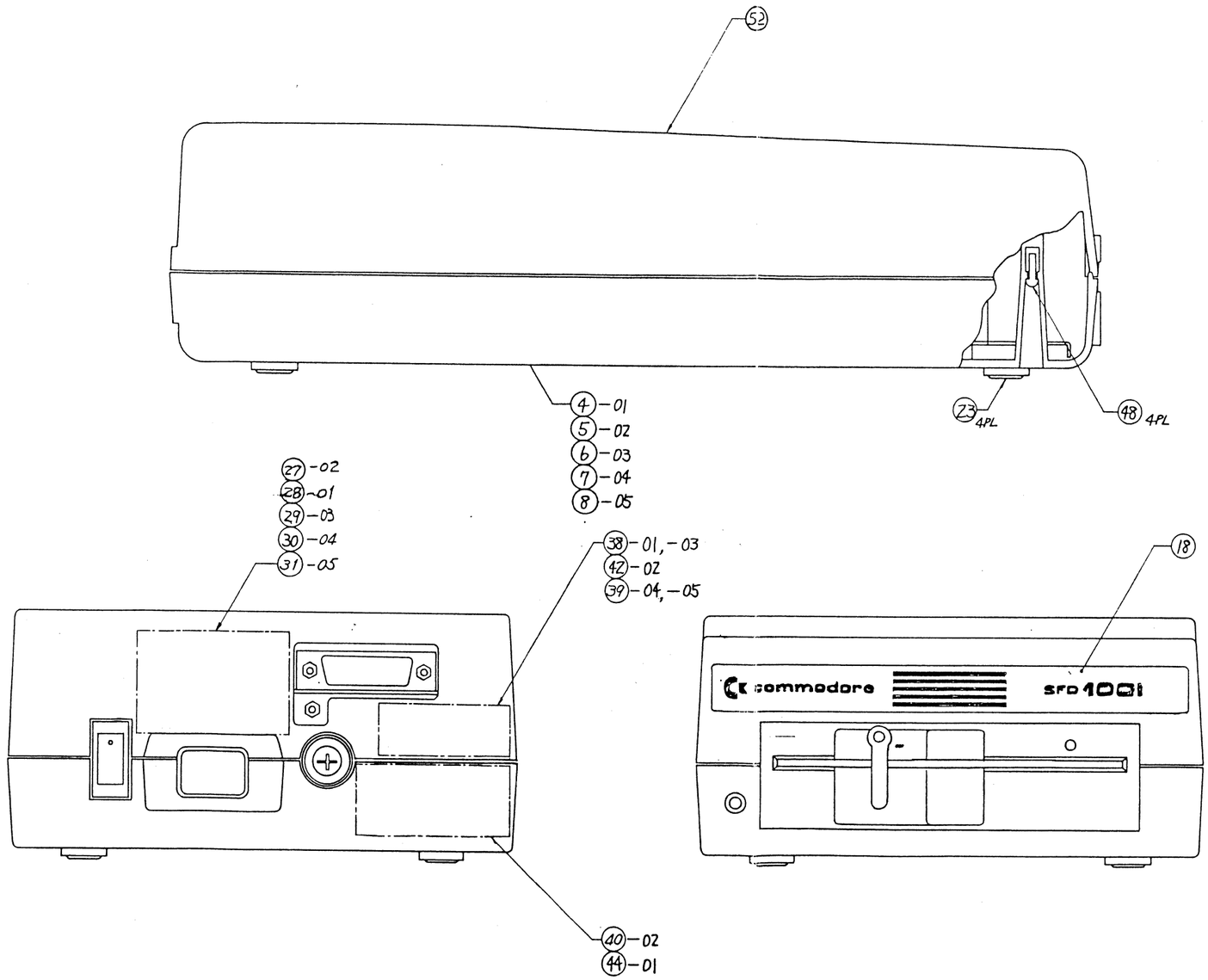
UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X .XX .XXX ∠°

MATERIAL:

FINISH:

DRAWN BY: Y. Wiseman	DATE 9/16/83	commodore
CHKD: T. Hart	9/19/83	POWER SUPPLY ASSY, SINGLE FLOPPY
ENGR: T. Hart	9/7/83	SFD-1001
APPR: T. HORSMAN	9/15/83	SIZE D 250651 REV B
USED ON: SFD-1001	NEXT ASSY: 250650	SCALE 1/1 SHEET 1 OF 5

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS .X .XX .XXX ∠°	DRAWN BY: J. Kleinfelder	DATE 5/31/83	commodore
	CHKD: T. Hawks	6/2/83	MAIN ASSY, SINGLE FLOPPY SFD-1001
	ENGR: T. Hawks	6/7/83	
	APPR: T. HAWKS	6/7/83	
MATERIAL:	USED ON: SFD -1001	NEXT ASSY: 250208	SIZE D / 250649 / REV A
FINISH:			SCALE 1/1 / SHEET 4 OF 4

QUANTITY REQD PER PART / DASH NO. -05	-04	-03	-02	-01	ITEM	OS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
		1		1	38	B	255011-01	LABEL WARNING, FUSE REPLACEMENT			ENGLISH 250V 0.8A
1	1				39	B	255011-02	LABEL WARNING, FUSE REPLACEMENT			ENGLISH 250V 0.4A
			1		40	B	255011-03	LABEL WARNING, FUSE REPLACEMENT			ENGLISH, FRENCH 250V 0.8A
					41						
			1		42	B	255012-01	LABEL CAUTION, CSA			ENGLISH, FRENCH
					43						
				1	44	B	251086-01	LABEL, FCC CLASS A			
					45						
					46						
					47						
4	4	4	4	4	48	B	906800-02	SCREW METRIC, M3			PAN HEAD, PHILLIPS LG 10
					49						
					50						
					51						
1	1	1	1	1	52	B	251186-01	TOP CASE ASSY 2031LP/SFD-1001			
					53						
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					57						
					58						
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					74						

commodore

TITLE: MAIN ASSY, SINGLE FLOPPY SFD-1001

DRWN BY:	DATE	ENGR:	DATE	SIZE		REV	SHT
Y. Utsunomiya	6/16/83			B	250649	A	3/4
CHKD: T. Tidwell	6/17/83	APPR: T. Hipshman	9/6/83				

ADVANCED REPRO